



NASA SP-7039(10)

Section 2

Indexes

NASA

**PATENT  
ABSTRACTS  
BIBLIOGRAPHY**

**CASE FILE  
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**A CONTINUING BIBLIOGRAPHY**

**Section 2 • Indexes**

**JANUARY 1977**

**NATIONAL AERONAUTICS AND SPACE ADMINISTRATION**



## ACCESSION NUMBER RANGES

<i>Bibliography Number</i>	<i>STAR Accession Numbers</i>
NASA SP-7039(04)	N69-20701-N73-33931
NASA SP-7039(05)	N74-10001-N74-21629
NASA SP-7039(06)	N74-21630-N74-35363
NASA SP-7039(07)	N75-10001-N75-21218
NASA SP-7039(08)	N75-21219-N75-34001
NASA SP-7039(09)	N76-10001-N76-22149
NASA SP-7039(10)	N76-22150-N76-34122

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**NASA**

**PATENT  
ABSTRACTS  
BIBLIOGRAPHY**

**A CONTINUING BIBLIOGRAPHY**

**Section 2 • Indexes**

Indexes for the annotated references to NASA-owned inventions covered by U.S. patents and applications for patent that were announced in *Scientific and Technical Aerospace Reports (STAR)* between May 1969 and December 1976. This issue supersedes all previous Index Sections.



*Scientific and Technical Information Office*  
**NATIONAL AERONAUTICS AND SPACE ADMINISTRATION**

**JANUARY 1977**  
*Washington, D.C.*



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# INTRODUCTION

Several thousand inventions result each year from the aeronautical and space research supported by the National Aeronautics and Space Administration. The inventions having important use in government programs or significant commercial potential are usually patented by NASA. These inventions cover practically all fields of technology and include many that have useful and valuable commercial application.

NASA inventions best serve the interests of the United States when their benefits are available to the public. In many instances, the granting of nonexclusive or exclusive licenses for the practice of these inventions may assist in the accomplishment of this objective. This bibliography is published as a service to companies, firms, and individuals seeking new, licensable products for the commercial market.

The *NASA Patent Abstracts Bibliography (NASA PAB)* is a semiannual NASA publication containing comprehensive abstracts and indexes of NASA-owned inventions covered by U.S. patents and applications for patent. The citations included in *NASA PAB* were originally published in NASA's *Scientific and Technical Aerospace Reports (STAR)* and cover *STAR* announcements made since May 1969.

For the convenience of the user, each issue of *NASA PAB* has a separately bound Abstract Section (Section 1) and Index Section (Section 2). Although each Abstract Section covers only the indicated six-month period, the Index Section is cumulative covering all NASA-owned inventions announced in *STAR* since May 1969. Thus a complete set of *NASA PAB* would consist of the Abstract Section of Issue 04 (January 1974), the Abstract Section for all subsequent issues, and the Index Section for the most recent issue.

The 189 citations published in this issue of the Abstract Section cover the period July 1976 through December 1976. The Index Section contains references to the 3089 citations covering the period May 1969 through December 1976.

## ABSTRACT SECTION (SECTION 1)

This *PAB* issue incorporates the 1975 *STAR* category revisions which include 10 major subdivisions divided into 74 specific categories and one general category/division. (See Table of Contents for the scope note of each category under which are grouped appropriate NASA inventions.) This new scheme was devised in lieu of the 34 category divisions which were utilized in *PAB* supplements (01) through (06) covering *STAR* abstracts from May 1969 through January 1974. Each entry in the Abstract Section consists of a *STAR* citation accompanied by an abstract and a key illustration taken from the patent or application for patent drawing. Entries are arranged in subject category in order of the ascending NASA Accession Number originally assigned in *STAR* to the invention. The range of NASA Accession Numbers within each issue is printed on the inside front cover.

**Abstract Citation Data Elements:** Each of the abstract citations has several data elements useful for identification and indexing purposes, as follows:

NASA Accession Number  
NASA Case Number  
Inventor's Name

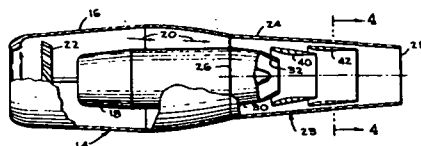


Title of Invention  
 U.S. Patent Application Serial Number  
 U.S. Patent Number (for issued patents only)  
 U.S. Patent Office Classification Number(s)  
 (for issued patents only)

These data elements in the citation of the abstract as depicted in the Typical Citation and Abstract reproduced below and are also used in the several indexes.

## TYPICAL CITATION AND ABSTRACT

<b>NASA SPONSORED DOCUMENT</b>		<b>AVAILABLE ON MICROFICHE</b>
<b>NASA ACCESSION NUMBER</b>	<b>N76-18131*</b>	<b>SOURCE</b>
<b>TITLE</b>	<b>NOISE SUPPRESSOR FOR TURBO FAN JET ENGINES</b>	
<b>INVENTOR</b>	Dah Yu Cheng, inventor (to NASA) (Santa Clara Univ.) Filed 13 Feb. 1976 17 p Sponsored by NASA	
<b>NASA CASE NUMBER</b>	(NASA-Case-ARC-10812-1; US-Patent-Appl-SN-657903) Avail: NTIS HC \$3.50 CSCL 21E	<b>US PATENT APPLICATIONS SERIAL NUMBER</b>
<b>ABSTRACT</b>	A noise suppressor for installation on the discharge or aft end of a turbofan engine is described. Within the suppressor are fixed annular airfoils which are positioned to reduce the relative velocity between the high temperature fast moving jet exhaust and the low temperature slow moving air. Within the suppressor nacelle is an exhaust jet nozzle which constrains the shape of the jet exhaust to a substantially uniform elongate shape irrespective of the power setting of the engine. Fixed ring airfoils within the suppressor nacelle have the same salutary effects irrespective of the power setting at which the engine is operated.	<b>AVAILABILITY</b>
	NASA	<b>COSATI CODE</b>



KEY ILLUSTRATION

## INDEX SECTION (SECTION 2)

The Index Section is divided into five indexes which are cross-indexed and are useful in locating a single invention or groups of inventions.

Each of the five indexes utilizes basic data elements: (1) Subject Category Number, (2) NASA Accession Number, and (3) NASA Case Number, in addition to other specific index terms.

**Subject Index:** Lists all inventions according to appropriate alphabetized technical term and indicates the related NASA Case Number, the Subject Category Number, and the NASA Accession Number.

**Inventor Index:** Lists all inventions according to alphabetized names of inventors and indicates the related NASA Case Number, the Subject Category Number, and the NASA Accession Number.

**Source Index:** Lists all inventions according to alphabetized source of invention (i.e., name of contractor or government installation where invention was made) and indicates the related NASA Case Number, the Subject Category Number, and the NASA Accession Number.

**Number Index:** Lists inventions in order of ascending (1) NASA Case Number, (2) U.S. Patent Application Serial Number, (3) U.S. Patent Classification Number, and (4) U.S. Patent Number and indicates the related Subject Category Number and the NASA Accession Number.

**Accession Number Index:** Lists all inventions in order of ascending NASA Accession Number and indicates the related Subject Category Number, the NASA Case Number, the U.S. Patent Application Serial Number, the U.S. Patent Classification Number, and the U.S. Patent Number.

## HOW TO USE THIS PUBLICATION TO IDENTIFY NASA INVENTIONS

To identify one or more NASA inventions within a specific technical field or subject, several techniques are possible when using the flexibility incorporated into the *NASA PAB*.

(1) *Using Subject Category:* To identify all NASA inventions in any one of the subject categories in this issue of *NASA PAB*, select the desired Subject Category in the Abstract Section (Section 1) and find the inventions abstracted thereunder. For previous *NASA PAB* issues, the Tables of Contents to Section 2 should be examined as the Subject categories were changed beginning with *NASA PAB (07)*.

(2) *Using Subject Index:* To identify all NASA inventions listed under a desired technical subject index term, (A) turn to the cumulative Subject Index in the Index Section and find the invention(s) listed under the desired technical subject term. (B) Note the indicated Accession Number and the Subject Category Number. (C) Using the indicated Accession Number, turn to the inside front cover of the Index Section to determine which issue of the Abstract Section includes the Accession Number desired. (D) To find the abstract of the particular invention in the issue of the Abstract Section selected, (i) use the Subject Category Number to locate the Subject Category and (ii) use the Accession Number to locate the desired invention within the Subject Category listing.



(3) *Using Patent Classification Index:* To identify all inventions covered by issued NASA patents (does not include applications for patent) within a desired Patent Office Classification, (A) turn to the Patent Classification Number in the Number Index of Section 2 and find the associated inventions(s), and (B) follow the instructions outlined in (2)(B), and (D) above.

## **PUBLIC AVAILABILITY OF COPIES OF PATENTS AND PATENT APPLICATIONS**

Copies of U.S. patents may be purchased directly from the U.S. Patent Office, Washington, D.C. 20231, for fifty cents a copy. When ordering patents, the U.S. Patent Number should be used, and payment must be remitted in advance, preferably by money order or check payable to the Commissioner of Patents. Prepaid purchase coupons for ordering are also available from the Patent Office.

NASA *patent application specifications* are sold in paper copy by the National Technical Information Service at price code A02 (\$3.50 domestic; \$7.00 foreign). Microfiche are sold at price code A01 (\$3.00 domestic; \$4.50 foreign). The US-Patent-Appl-SN- number should be used in ordering either paper copy or microfiche from NTIS.

## **LICENSES FOR COMMERCIAL USE: INQUIRIES AND APPLICATIONS FOR LICENSE**

NASA inventions, abstracted in *NASA PAB*, are available for nonexclusive or exclusive licensing in accordance with the NASA Patent Licensing Regulations. It is significant that all licenses for NASA inventions shall be by express written instruments and that no license will be granted or implied in a NASA invention except as provided in the NASA Patent Licensing Regulations.

Inquiries concerning the NASA Patent Licensing Program or the availability of licenses for the commercial use of NASA-owned inventions covered by U.S. patents or pending applications for patent should be forwarded to the NASA Patent Counsel of the NASA installation having cognizance of the specific invention, or the Assistant General Counsel for Patent Matters, Code GP, National Aeronautics and Space Administration, Washington, D.C. 20546. Inquiries should refer to the NASA Case Number, the Title of the Invention, and the U.S. Patent Number or the U.S. Application Serial Number assigned to the invention as shown in *NASA PAB*.

The NASA Patent Counsel having cognizance of the invention is determined by the first three letters or prefix of the NASA Case Number assigned to the invention. The addresses of NASA Patent Counsels are listed alongside the NASA Case Number prefix letters in the following table. Formal application of license must be submitted on the NASA Form, Application for NASA Patent License, which is available upon request from any NASA Patent Counsel.

**NASA Case  
Number  
Prefix Letters**

**Address of Cognizant  
NASA Patent Counsel**

ARC-xxxxx  
XAC-xxxxx

Ames Research Center  
Mail Code: 200-11A  
Moffett Field, California 94035  
Telephone: (415)965-5104

ERC-xxxxx  
XER-xxxxx  
HQN-xxxxx  
XHQ-xxxxx

NASA Headquarters  
Mail Code: GP  
Washington, D.C. 20546  
Telephone: (202)755-3954

GSC-xxxxx  
XGS-xxxxx

Goddard Space Flight Center  
Mail Code: 204  
Greenbelt, Maryland 20771  
Telephone: (301)982-2351

KSC-xxxxx  
XKS-xxxxx

John F. Kennedy Space Center  
Mail Code: AA-PAT  
Kennedy Space Center, Florida 32899  
Telephone: (305)867-2544

LAR-xxxxx  
XLA-xxxxx

Langley Research Center  
Mail Code: 456  
Langley Station  
Hampton, Virginia 23365  
Telephone: (804)827-3725

LEW-xxxxx  
XLE-xxxxx

Lewis Research Center  
Mail Code: 500-311  
21000 Brookpark Road  
Cleveland, Ohio 44135  
Telephone: (216)433-6346

MSC-xxxxx  
XMS-xxxxx

Lyndon B. Johnson Space Center  
Mail Code: AM  
Houston, Texas 77058  
Telephone: (713)483-4871

MFS-xxxxx  
XMF-xxxxx

George C. Marshall Space Flight  
Center  
Mail Code: CC01  
Huntsville, Alabama 35812  
Telephone: (205)453-0020

NPO-xxxxx  
XNP-xxxxx  
FRC-xxxxx  
XFR-xxxxx  
WOO-xxxxx

NASA Resident Legal Office  
Mail Code: 180-601  
4800 Oak Grove Drive  
Pasadena, California 91103  
Telephone: (213)354-2700

# Title 14—AERONAUTICS AND SPACE

## Chapter V—National Aeronautics and Space Administration

### PART 1245—PATENTS

#### Subpart 2—Patent Licensing Regulations

1. Subpart 2 is revised in its entirety as follows:

Sec.	
1245.200	Scope of subpart.
1245.201	Definitions.
1245.202	Basic considerations.
1245.203	Licenses for practical application of inventions.
1245.204	Other licenses.
1245.205	Publication of NASA inventions available for license.
1245.206	Application for nonexclusive license.
1245.207	Application for exclusive license.
1245.208	Processing applications for license.
1245.209	Royalties and fees.
1245.210	Reports.
1245.211	Revocation of licenses.
1245.212	Appeals.
1245.213	Litigation.
1245.214	Address of communications.

**AUTHORITY:** The provisions of this Subpart 2 issued under 42 U.S.C. 2457, 2473(b)(3).

#### § 1245.200 Scope of subpart.

This Subpart 2 prescribes the terms, conditions, and procedures for licensing inventions covered by U.S. patents and patent applications for which the Administrator of the National Aeronautics and Space Administration holds title on behalf of the United States.

#### § 1245.201 Definitions.

For the purpose of this subpart, the following definitions apply:

(a) "Invention" means an invention covered by a U.S. patent or patent application for which the Administrator of NASA holds title on behalf of the United States and which is designated by the Administration as appropriate for the grant of license(s) in accordance with this subpart.

(b) "To practice an invention" means to make or have made, use or have used, sell or have sold, or otherwise dispose of according to law any machine, article of manufacture or composition of matter physically embodying the invention, or to use or have used the process or method comprising the invention.

(c) "Practical application" means the manufacture in the case of a composition of matter or product, the use in the case of a process, or the operation in the case of a machine, under such conditions as to establish that the invention is being utilized and that its benefits are reasonably accessible to the public.

(d) "Special invention" means any invention designated by the NASA Assistant General Counsel for Patent Matters to be subject to short-form licensing procedures. An invention may be designated as a special invention when a determination is made that:

(1) Practical application has occurred and is likely to continue for the life of

the patent and for which an exclusive license is not in force, or

(2) The public interest would be served by the expeditious granting of a nonexclusive license for practice of the invention by the public.

(e) The "Administrator" means the Administrator of the National Aeronautics and Space Administration, or his designee.

(f) "Government" means the Government of the United States of America.

(g) The "Inventions and Contributions Board" means the NASA Inventions and Contributions Board established by the Administrator of NASA within the Administration in accordance with section 305 of the National Aeronautics and Space Act of 1958 as amended (42 U.S.C. 2457).

#### § 1245.202 Basic considerations.

(a) Much of the new technology resulting from NASA sponsored research and development in aeronautical and space activities has application in other fields. NASA has special authority and responsibility under the National Aeronautics and Space Act of 1958, as amended (42 U.S.C. 2451), to provide for the widest practical dissemination and utilization of this new technology. In addition, NASA has been given unique requirements to protect the inventions resulting from NASA activities and to promulgate licensing regulations to encourage commercial use of these inventions.

(b) NASA-owned inventions will best serve the interests of the United States when they are brought to practical application in the shortest time possible. Although NASA encourages the non-exclusive licensing of its inventions to promote competition and achieve their widest possible utilization, the commercial development of certain inventions calls for a substantial capital investment which private manufacturers may be unwilling to risk under a nonexclusive license. It is the policy of NASA to seek exclusive licensees when such licenses will provide the necessary incentive to the licensee to achieve early practical application of the invention.

(c) The Administrator, in determining whether to grant an exclusive license, will evaluate all relevant information submitted by applicants and all other persons and will consider the necessity for further technical and market development of the invention, the capabilities of prospective licensees, their proposed plans to undertake the required investment and development, the impact on competitors, and the benefits of the license to the Government and to the public. Preference for exclusive license shall be given to U.S. citizens or companies who intend to manufacture or use, in the case of a process, the invention in the United States of America, its territories and possessions. Consideration may also be given to assisting small businesses and minority business enterprises, as well as economically depressed, low income and labor surplus areas.

(d) All licenses for inventions shall

be by express written instruments. No license shall be granted either expressly or by implication, for a NASA invention except as provided for in §§ 1245.203 and 1245.204 and in any existing or future treaty or agreement between the United States and any foreign government.

(e) Licenses for inventions covered by NASA-owned foreign patents and patent applications shall be granted in accordance with the NASA Foreign Patent Licensing Regulations (§ 1245.4).

#### § 1245.203 Licenses for practical application of inventions.

(a) *General.* As an incentive to encourage practical application of inventions, licenses will be granted to responsible applicants according to the circumstances and conditions set forth in this section.

(b) *Nonexclusive licenses.* (1) Each invention will be made available to responsible applicants for nonexclusive, revocable licensing in accordance with § 1245.206, consistent with the provisions of any existing exclusive license.

(2) The duration of the license shall be for a period as specified in the license.

(3) The license shall require the licensee to achieve the practical application of the invention and to then practice the invention for the duration of the license.

(4) The license may be granted for all or less than all fields of use of the invention and throughout the United States of America, its territories and possessions, Puerto Rico, and the District of Columbia, or in any lesser geographic portion thereof.

(5) The license shall extend to the subsidiaries and affiliates of the licensee and shall be nonassignable without approval of the Administrator, NASA, except to the successor of that part of the licensee's business to which the invention pertains.

(c) *Short-form nonexclusive licenses.* A nonexclusive, revocable license for a special invention, as defined in § 1245.201 (d), shall be granted upon written request, to any applicant by the Patent Counsel of the NASA installation having cognizance of the invention.

(d) *Exclusive licenses.* (1) A limited exclusive license may be granted on an invention available for such licensing provided that:

(i) The Administrator has determined that: (a) The invention has not been brought to practical application by a nonexclusive licensee in the fields of use or in the geographical locations covered by the application for the exclusive license, (b) practical application of the invention in the fields of use or geographical locations covered by the application for the exclusive license is not likely to be achieved expeditiously by the further funding of the invention by the Government or under a nonexclusive license requested by any applicant pursuant to these regulations, and (c) the exclusive license will provide the necessary incentive to the licensee to achieve the practical application of the invention; and

(ii) Either a notice pursuant to



## PATENT LICENSING REGULATIONS

§ 1245.205 listing the invention as available for licensing has been published in the FEDERAL REGISTER for at least 9 months; or a patent covering the invention has been issued for at least 6 months. However, a limited exclusive license may be granted prior to the periods specified above if the Administrator determines that the public interest will best be served by the earlier grant of an exclusive license.

(2) The license may be granted for all or less than all fields of use of the invention, and throughout the United States of America, its territories and possessions, Puerto Rico, and the District of Columbia, or in any lesser geographic portion thereof.

(3) The exclusive period of the license shall be negotiated, but shall be for less than the terminal portion of the patent, and shall be related to the period necessary to provide a reasonable incentive to invest the necessary risk capital.

(4) The license shall require the licensee to practice the invention within a period specified in the license and then to achieve practical application of the invention.

(5) The license shall require the licensee to expend a specified minimum sum of money and/or to take other specified actions, within indicated period(s) after the effective date of the license, in an effort to achieve practical application of the invention.

(6) The license shall be subject to at least an irrevocable royalty-free right of the Government of the United States to practice and have practiced the invention throughout the world by or on behalf of the Government of the United States and on behalf of any foreign government pursuant to any existing or future treaty or agreement with the United States.

(7) The license may reserve to the Administrator, NASA, under the following circumstances, the right to require the granting of a sublicense to responsible applicant(s) on terms that are considered reasonable by the Administrator, taking into consideration the current royalty rates under similar patents and other pertinent facts: (i) To the extent that the invention is required for public use by Government regulation, or (ii) as may be necessary to fulfill health or safety needs, or (iii) for other purposes stipulated in the license.

(8) The license shall be nontransferable except to the successor of that part of the licensee's business to which the invention pertains.

(9) Subject to the approval of the Administrator, the licensee may grant sublicenses under the license. Each sublicense granted by an exclusive licensee shall make reference to and shall provide that the sublicense is subject to the terms of the exclusive license including the rights retained by the Government under the exclusive license. A copy of each sublicense shall be furnished to the Administrator.

(10) The license may be subject to such other reservations as may be in the public interest.

### § 1245.204 Other licenses.

(a) *License to contractor.* There is

hereby granted to the contractor reporting an invention made in the performance of work under a contract of NASA in the manner specified in section 305(a)

(1) or (2) of the National Aeronautics and Space Act of 1958 as amended (42 U.S.C. 2457(a) (1) or (2)), a revocable, nonexclusive, royalty-free license for the practice of such invention, together with the right to grant sublicenses of the same scope to the extent the contractor was legally obligated to do so at the time the contract was awarded. Such license and right is nontransferable except to the successor of that part of the contractor's business to which the invention pertains.

(b) *Miscellaneous licenses.* Subject to any outstanding licenses, nothing in this subpart 2 shall preclude the Administrator from granting other licenses for inventions, when he determines that do so would provide for an equitable distribution of rights. The following exemplify circumstances wherein such licenses may be granted:

(1) In consideration of the settlement of an interference;

(2) In consideration of a release of a claim of infringement; or

(3) In exchange for or as part of the consideration for a license under adversely held patent(s).

### § 1245.205 Publication of NASA inventions available for license.

(a) A notice will be periodically published in the FEDERAL REGISTER listing inventions available for licensing. Abstracts of the inventions will also be published in the NASA Scientific and Technical Aerospace Reports (STAR) and other NASA publications.

(b) Copies of pending patent applications for inventions abstracted in STAR may be purchased from the National Technical Information Service, Springfield, Va. 22151.

### § 1245.206 Application for nonexclusive license.

(a) *Submission of application.* An application for nonexclusive license under § 1245.203(b) or a short-form nonexclusive license for special inventions under § 1245.203(c) shall be addressed to the NASA Patent Counsel of the NASA Installation having cognizance over the NASA invention for which a license is desired or to the NASA Assistant General Counsel for Patent Matters.

(b) *Contents of an application for nonexclusive license.* An application for nonexclusive license under § 1245.203(b) shall include:

(1) Identification of invention for which license is desired, including the NASA patent case number, patent application serial number of patent number, title and date, if known;

(2) Name and address of the person, company or organization applying for license and whether the applicant is a U.S. citizen or a U.S. corporation;

(3) Name and address of representative of applicant to whom correspondence should be sent;

(4) Nature and type of applicant's business;

(5) Number of employees;

(6) Purpose for which license is desired;

(7) A statement that contains the applicant's best knowledge of the extent to which the invention is being practiced by private industry and the Government;

(8) A description of applicant's capability and plan to undertake the development and marketing required to achieve the practical application of the invention, including the geographical location where the applicant plans to manufacture or use, in the case of a process, the invention; and

(9) A statement indicating the minimum term of years the applicant desires to be licensed.

(c) *Contents of an application for a short-form nonexclusive license.* An application for a short-form nonexclusive license under § 1245.203(c) for a special invention shall include:

(1) Identification of invention for which license is desired, including the NASA patent case number, patent application serial number or patent number, title and date, if known;

(2) Name and address of company or organization applying for license; and

(3) Name and address of representative of applicant to whom correspondence should be sent.

### § 1245.207 Application for exclusive license.

(a) *Submission of application.* An application for exclusive license under § 1245.203(d) may be submitted to NASA at any time. An application for exclusive license shall be addressed to the NASA Assistant General Counsel for Patent Matters.

(b) *Contents of an application for exclusive license.* In addition to the requirements set forth in § 1245.206(b), the application for an exclusive license shall include:

(1) Applicant's status, if any, in any one or more of the following categories:

(i) Small business firm;

(ii) Minority business enterprise;

(iii) Location in a surplus labor area;

(iv) Location in a low-income urban area; and

(v) Location in an area designed by the Government as economically depressed.

(2) A statement indicating the time, expenditure, and other acts which the applicant considers necessary to achieve practical application of the invention, and the applicant's offer to invest that sum and to perform such acts if the license is granted;

(3) A statement whether the applicant would be willing to accept a license for all or less than all fields of use of the invention throughout the United States of America, its territories and possessions, Puerto Rico, and the District of Columbia, or in any lesser geographic portion thereof.

(4) A statement indicating the amount of royalty fees or other consideration, if any, the applicant would be willing to pay the Government for the exclusive license; and

(5) Any other facts which the applicant believes to show it to be in the interests of the United States of America for the Administrator to grant an exclusive license rather than a nonexclusive li-

## PATENT LICENSING REGULATIONS

cence and that such an exclusive license should be granted to the applicant.

### § 1245.208 Processing applications for license.

(a) *Initial review.* Applications for nonexclusive and exclusive licenses under §§ 1245.206 and 1245.207 will be reviewed by the Patent Counsel of the NASA installation having cognizance for the invention and the NASA Assistant General Counsel for Patent Matters, to determine the conformity and appropriateness of the application for license and the availability of the specific invention for the license requested. The Assistant General Counsel for Patent Matters will forward all applications for license conforming to §§ 1245.206(b) and 1245.207(b) to the NASA Inventions and Contributions Board when the invention is available for consideration of the requested license. Prior to forwarding applications for exclusive licenses to the Inventions and Contributions Board, notice in writing will be given to each nonexclusive licensee for the specific invention advising of the receipt of the application for the exclusive license and providing each nonexclusive licensee with a 30-day period for submitting either evidence that practical application of the invention has occurred or is about to occur or, an application for an exclusive license for the invention.

(b) *Recommendations of Inventions and Contributions Board.* The Inventions and Contributions Board shall, in accordance with the basic considerations set forth in §§ 1245.202 and 1245.203, evaluate all applications for license forwarded by the Assistant General Counsel for Patent Matters. Based upon the facts presented to the Inventions and Contributions Board in the application and any other facts in its possession, the Inventions and Contributions Board shall recommend to the Administrator: (1) Whether a nonexclusive or exclusive license should be granted, (2) the identity of the licensee, and (3) any special terms or conditions of the license.

(c) *Determination of Administrator and grant of nonexclusive licenses.* The Administrator shall review the recommendations of the Inventions and Contributions Board and shall determine whether to grant the nonexclusive license as recommended by the Board. If the Administrator determines to grant the license, the license will be granted upon the negotiation of the appropriate terms and conditions of the Office of General Counsel.

(d) *Determination of Administrator and grant of exclusive licenses—(1) Notice.* If the Administrator determines that the best interest of the United States will be served by the granting of an exclusive license in accordance with the basic considerations set forth in §§ 1245.202 and 1245.203, a notice shall be published in the FEDERAL REGISTER announcing the intent to grant the exclusive license, the identification of the invention, special terms or conditions of the proposed license, and a statement that NASA will grant the exclusive license unless within 30 days of the publication of such notice the Inventions and Contributions Board receives in writing

any of the following together with supporting documentation:

(i) A statement from any person setting forth reasons why it would not be in the best interest of the United States to grant the proposed exclusive license; or

(ii) An application for a nonexclusive license under such invention, in accordance with § 1245.206(b), in which applicant states that he has already brought or is likely to bring the invention to practical application within a reasonable period.

The Inventions and Contributions Board shall, upon receipt of a written request within the 30 days' notice period, grant an extension of 30 days for the submission of the documents designated above.

(2) *Recommendation of Inventions and Contributions Board.* Upon the expiration of the period required by subparagraph (1) of this paragraph, the Board shall review all written responses to the notice and shall then recommend to the Administrator whether to grant the exclusive license as the Board initially recommended or whether a different form of license, if any, should instead be granted.

(3) *Grant of exclusive licenses.* The Administrator shall review the Board's recommendation and shall determine if the interest of the United States would best be served by the grant of an exclusive license as recommended by the Board. If the Administrator determines to grant the exclusive license, the license will be granted upon the negotiation of the appropriate terms and conditions by the Office of General Counsel.

### § 1245.209 Royalties and Fees.

(a) Normally, a nonexclusive license for the practical application of an invention granted to a U.S. citizen or company will not require the payment of royalties; however, NASA may require other consideration.

(b) An exclusive license for an invention may require the payment of royalties, fees or other consideration when the licensing circumstances and the basic considerations in § 1245.202, considered together, indicate that it is in the public interest to do so.

### § 1245.210 Reports.

A license shall require the licensee to submit periodic reports of his efforts to work the invention. The reports shall contain information within his knowledge, or which he may acquire under normal business practice, pertaining to the commercial use that is being made of the invention and such other information which the Administrator may determine pertinent to the licensing program and which is specified in the license.

### § 1245.211 Revocation of licenses.

(a) Any license granted pursuant to § 1245.203 may be revoked, either in part or in its entirety, by the Administrator if in his opinion the licensee at any time shall fail to use adequate efforts to bring to or achieve practical application of the invention in accordance with the terms of the license, or if the licensee at any

time shall default in making any report required by the license, or shall make any false report, or shall commit any breach of any covenant or agreement therein contained, and shall fail to remedy any such default, false report, or breach within 30 days after written notice, or if the patent is deemed unenforceable either by the Attorney General or a final decision of a U.S. court.

(b) Any license granted pursuant to § 1245.204(a) may be revoked, either in part or in its entirety, by the Administrator if in his opinion such revocation is necessary to achieve the earliest practical application of the invention pursuant to an application for exclusive license submitted in accordance with § 1245.207, or the licensee at any time shall breach any covenant or agreement contained in the license, and shall fail to remedy any such breach within 30 days after written notice thereof.

(c) Before revoking any license granted pursuant to this Subpart 2 for any cause, there will be furnished to the licensee a written notice of intention to revoke the license, and the licensee will be allowed 30 days after such notice in which to appeal and request a hearing before the Inventions and Contributions Board on the question of revocation. After a hearing, the Inventions and Contributions Board shall transmit to the Administrator the record of proceedings, its findings of fact, and its recommendation whether the license should be revoked either in part or in its entirety. The Administrator shall review the recommendation of the Board and determine whether to revoke the license in part or in its entirety. Revocation of a license shall include revocation of all sublicenses which have been granted.

### § 1245.212 Appeals.

Any person desiring to file an appeal pursuant to § 1245.211(c) shall address the appeal to Chairman, Inventions and Contributions Board. Any person filing an appeal shall be afforded an opportunity to be heard before the Inventions and Contributions Board, and to offer evidence in support of his appeal. The procedures to be followed in any such matter shall be determined by the Administrator. The Board shall make findings of fact and recommendations with respect to disposition of the appeal. The decision on the appeal shall be made by the Administrator, and such decision shall be final and conclusive, except on questions of law, unless determined by a court of competent jurisdiction to have been fraudulent, or capricious, or arbitrary, or so grossly erroneous as necessarily to imply bad faith, or not supported by substantial evidence.

### § 1245.213 Litigation.

An exclusive licensee shall be granted the right to sue at his own expense any party who infringes the rights set forth in his license and covered by the licensed patent. The licensee may join the Government, upon consent of the Attorney General, as a party complainant in such suit, but without expense to the Government and the licensee shall pay costs and any final judgment or decree that may be rendered against the Govern-

## PATENT LICENSING REGULATIONS

ment in such suit. The Government shall also have an absolute right to intervene in any such suit at its own expense. The licensee shall be obligated to promptly furnish to the Government, upon request, copies of all pleadings and other papers filed in any such suit and of evidence adduced in proceedings relating to the licensed patent including, but not limited to, negotiations for settlement and agreements settling claims by a licensee based on the licensed patent, and all other books, documents, papers, and

records pertaining to such suit. If, as a result of any such litigation, the patent shall be declared invalid, the licensee shall have the right to surrender his license and be relieved from any further obligation thereunder.

### § 1245.214 Address of communications.

(a) Communications to the Assistant General Counsel for Patent Matters in accordance with §§ 1245.206 and 1245.207 and requests for information concerning licenses for NASA inventions should be

addressed to the Assistant General Counsel for Patent Matters, Code GP, National Aeronautics and Space Administration, Washington, D.C. 20546.

(b) Communications to the Inventions and Contributions Board in accordance with §§ 1245.208, 1245.211, and 1245.212 should be addressed to Chairman, Inventions and Contributions Board, National Aeronautics and Space Administration, Washington, D.C. 20546.

*Effective date.* The regulations set forth in this subpart 2 are effective April 1, 1972.

JAMES C. FLETCHER,  
Administrator.

## FOREIGN PATENT LICENSING REGULATIONS

Selected NASA inventions are also available for licensing in countries other than the United States in accordance with the NASA Foreign Patent Licensing Regulation (14 C.F.R. 1245.4), a copy of which is available from any NASA Patent Counsel.

# Subject Categories

(1969-1974)

## 01 Aerodynamics

Includes aerodynamics of bodies, combinations, internal flow in ducts and turbomachinery; wings, rotors, and control surfaces. For applications see: 02 Aircraft and 32 Space Vehicles. For related information see also: 12 Fluid Mechanics; and 33 Thermodynamics and Combustion.

## 02 Aircraft

Includes fixed-wing airplanes, helicopters, gliders, balloons, ornithopters, etc.; and specific types of complete aircraft (e.g., ground effect machines, STOL, and VTOL); flight tests; operating problems (e.g., sonic boom); safety and safety devices; economics; and stability and control. For basic research see: 01 Aerodynamics. For related information see also: 31 Space Vehicles; and 32 Structural Mechanics.

## 03 Auxiliary Systems

Includes fuel cells, energy conversion cells, and solar cells; auxiliary gas turbines; hydraulic, pneumatic and electrical systems; actuators; and inverters. For related information see also: 09 Electronic Equipment; 22 Nuclear Engineering; and 28 Propulsion Systems.

## 04 Biosciences

Includes aerospace medicine, exobiology, radiation effects on biological systems; physiological and psychological factors. For related information see also: 05 Biotechnology.

## 05 Biotechnology

Includes life support systems, human engineering; protective clothing and equipment; crew training and evaluation, and piloting. For related information see also: 04 Biosciences.

## 06 Chemistry

Includes chemical analysis and identification (e.g., spectroscopy). For applications see: 17 Materials, Metallic; 18 Materials, Nonmetallic; and 27 Propellants.

## 07 Communications

Includes communications equipment and techniques; noise; radio and communications blackout; modulation telemetry; tracking radar and optical observation; and wave propagation. For basic research see: 23 Physics, General; and 21 Navigation.

## 08 Computers

Includes computer operation and programming; and data processing. For applications, see specific categories. For related information see also: 19 Mathematics.

## 09 Electronic Equipment

Includes electronic test equipment and maintainability; component parts, e.g., electron tubes, tunnel diodes, transistors, integrated circuitry; microminiaturization. For basic research see: 10 Electronics. For related information see also: 07 Communications and 21 Navigation.

## 10 Electronics

Includes circuit theory; and feedback and control theory. For applications see: 09 Electronic Equipment. For related information see specific Physics categories.

## 11 Facilities, Research and Support

Includes airports; lunar and planetary bases including associated vehicles; ground support systems; related logistics; simulators; test facilities (e.g., rocket engine test stands, shock tubes, and wind tunnels); test ranges; and tracking stations.

## 12 Fluid Mechanics

Includes boundary-layer flow; compressible flow; gas dynamics; hydrodynamics; and turbulence. For related information see also: 01 Aerodynamics; and 33 Thermodynamics and Combustion.

## 13 Geophysics

Includes aeronomy; upper and lower atmosphere studies; oceanography; cartography; and geodesy. For related information see also: 20 Meteorology; 29 Space Radiation; and 30 Space Sciences.

## 14 Instrumentation and Photography

Includes design, installation, and testing of instrumentation systems; gyroscopes; measuring instruments and gages; recorders, transducers; aerial photography; and telescopes and cameras.

## 15 Machine Elements and Processes

Includes bearings, seals, pumps, and other mechanical equipment; lubrication, friction, and wear; manufacturing processes and quality control; reliability; drafting; and materials fabrication, handling, and inspection.

## 16 Masers

Includes applications of masers and lasers. For basic research see: 26 Physics, Solid-State.

## 17 Materials, Metallic

Includes cermets; corrosion; physical and mechanical properties of materials; metallurgy; and applications as structural materials. For basic research see: 06 Chemistry. For related information see also: 18 Materials, Nonmetallic; and 32 Structural Mechanics.



## **18 Materials, Nonmetallic**

Includes corrosion; physical and mechanical properties of materials (e.g., plastics); and elastomers, hydraulic fluids, etc. For basic research see: 06 Chemistry. For related information see also: 17 Materials, Metallic; 27 Propellants; and 32 Structural Mechanics.

## **19 Mathematics**

Includes calculation methods and theory; and numerical analysis. For applications see specific categories. For related information see also: 08 Computers.

## **20 Meteorology**

Includes climatology; weather forecasting; and visibility studies. For related information see also: 13 Geophysics; and 30 Space Sciences.

## **21 Navigation**

Includes guidance; autopilots; star and planet tracking; inertial platforms; and air traffic control. For related information see also: 07 Communications.

## **22 Nuclear Engineering**

Includes nuclear reactors and nuclear heat sources used for propulsion and auxiliary power. For basic research see: 24 Physics, Atomic, Molecular, and Nuclear. For related information see also: 03 Auxiliary Systems; and 28 Propulsion Systems.

## **23 Physics, General**

Includes acoustics, cryogenics, mechanics, and optics. For astrophysics see: 30 Space Sciences. For geophysics and related information see also: 13 Geophysics, 20 Meteorology, and 29 Space Radiation.

## **24 Physics, Atomic, Molecular, and Nuclear**

Includes atomic, molecular and nuclear physics. For applications see: 22 Nuclear Engineering. For related information see also: 29 Space Radiation.

## **25 Physics, Plasma**

Includes magnetohydrodynamics. For applications see: 28 Propulsion Systems.

## **26 Physics, Solid-State**

Includes semiconductor theory; and superconductivity. For applications see: 16 Masers. For related information see also: 10 Electronics.

## **27 Propellants**

Includes fuels; igniters; and oxidizers. For basic re-

search see: 06 Chemistry; and 33 Thermodynamics and Combustion. For related information see also: 28 Propulsion Systems.

## **28 Propulsion Systems**

Includes air breathing, electric, liquid, solid, and magnetohydrodynamic propulsion. For nuclear propulsion see: 22 Nuclear Engineering. For basic research see: 23 Physics, General; and 33 Thermodynamics and Combustion. For applications see: 31 Space Vehicles. For related information see also: 27 Propellants.

## **29 Space Radiation**

Includes cosmic radiation; solar flares; solar radiation; and Van Allen radiation belts. For related information see also: 13 Geophysics, and 24 Physics, Atomic, Molecular, and Nuclear.

## **30 Space Sciences**

Includes astronomy and astrophysics; cosmology; lunar and planetary flight and exploration; and theoretical analysis of orbits and trajectories. For related information see also: 11 Facilities, Research and Support; and 31 Space Vehicles.

## **31 Space Vehicles**

Includes launch vehicles; manned space capsules; clustered and multistage rockets; satellites; sounding rockets and probes; and operating problems. For basic research see: 30 Space Sciences. For related information see also: 28 Propulsion Systems; and 32 Structural Mechanics.

## **32 Structural Mechanics**

Includes structural element design and weight analysis; fatigue; thermal stress; impact phenomena; vibration; flutter; inflatable structures; and structural tests. For related information see also: 17 Materials, Metallic; and 18 Materials, Nonmetallic.

## **33 Thermodynamics and Combustion**

Includes ablation, cooling, heating, heat transfer, thermal balance, and other thermal effects; and combustion theory. For related information see also: 12 Fluid Mechanics; and 27 Propellants.

## **34 General**

Includes information of a broad nature related to industrial applications and technology, and to basic research; defense aspects; information retrieval; management; law and related legal matters; and legislative hearings and documents.

# TABLE OF CONTENTS

## Section 1 • Abstracts

Subject Categories (1975— )

### AERONAUTICS

Includes aeronautics (general); aerodynamics; air transportation and safety; aircraft communications and navigation; aircraft design, testing and performance; aircraft instrumentation; aircraft propulsion and power; aircraft stability and control; and research and support facilities (air).

For related information see also *Astronautics*.

#### 01 AERONAUTICS (GENERAL)

#### 02 AERODYNAMICS

Includes aerodynamics of bodies, combinations, wings, rotors, and control surfaces; and internal flow in ducts and turbomachinery.

For related information see also 34 *Fluid Mechanics and Heat Transfer*.

#### 03 AIR TRANSPORTATION AND SAFETY

Includes passenger and cargo air transport operations; and aircraft accidents.

For related information see also 16 *Space Transportation* and 85 *Urban Technology and Transportation*.

#### 04 AIRCRAFT COMMUNICATIONS AND NAVIGATION

Includes digital and voice communication with aircraft; air navigation systems (satellite and ground based); and air traffic control.

For related information see also 17 *Spacecraft Communications, Command and Tracking* and 32 *Communications*.

#### 05 AIRCRAFT DESIGN, TESTING AND PERFORMANCE

Includes aircraft simulation technology.

For related information see also 18 *Spacecraft Design, Testing and Performance* and 39 *Structural Mechanics*.

#### 06 AIRCRAFT INSTRUMENTATION

Includes cockpit and cabin display devices; and flight instruments.

For related information see also 19 *Spacecraft Instrumentation* and 35 *Instrumentation and Photography*.

#### 07 AIRCRAFT PROPULSION AND POWER

Includes prime propulsion systems and systems components, e.g., gas turbine engines and compressors; and on-board auxiliary power plants for aircraft.

For related information see also 20 *Spacecraft Propulsion and Power*, 28 *Propellants and Fuels*, and 44 *Energy Production and Conversion*.

#### 08 AIRCRAFT STABILITY AND CONTROL

Includes aircraft handling qualities; piloting; flight controls; and autopilots.

### 09 RESEARCH AND SUPPORT FACILITIES (AIR)

Includes airports, hangars and runways; aircraft repair and overhaul facilities; wind tunnels; shock tube facilities; and engine test blocks.

For related information see also 14 *Ground Support Systems and Facilities (Space)*.

### ASTRONAUTICS

Includes astronautics (general); astrodynamics; ground support systems and facilities (space); launch vehicles and space vehicles; space transportation; spacecraft communications, command and tracking; spacecraft design, testing and performance; spacecraft instrumentation; and spacecraft propulsion and power.

For related information see also *Aeronautics*.

#### 12 ASTRONAUTICS (GENERAL)

For extraterrestrial exploration see 91 *Lunar and Planetary Exploration*.

#### 13 ASTRODYNAMICS

Includes powered and free-flight trajectories; and orbit and launching dynamics.

#### 14 GROUND SUPPORT SYSTEMS AND FACILITIES (SPACE)

Includes launch complexes, research and production facilities; ground support equipment, e.g., mobile transporters; and simulators.

For related information see also 09 *Research and Support Facilities (Air)*.

#### 15 LAUNCH VEHICLES AND SPACE VEHICLES

Includes boosters; manned orbital laboratories; reusable vehicles; and space stations.

#### 16 SPACE TRANSPORTATION

Includes passenger and cargo space transportation, e.g., shuttle operations; and rescue techniques.

For related information see also 03 *Air Transportation and Safety* and 85 *Urban Technology and Transportation*.

#### 17 SPACECRAFT COMMUNICATIONS, COMMAND AND TRACKING

Includes telemetry; space communications networks; astronavigation; and radio blackout.

For related information see also 04 *Aircraft Communications and Navigation* and 32 *Communications*.

#### 18 SPACECRAFT DESIGN, TESTING AND PERFORMANCE

Includes spacecraft thermal and environmental control; and attitude control.

For life support systems see 54 *Man/System Technology and Life Support*. For related information see also 05 *Aircraft Design, Testing and Performance* and 39 *Structural Mechanics*.

## **19 SPACECRAFT INSTRUMENTATION**

For related information see also *06 Aircraft Instrumentation* and *35 Instrumentation and Photography*.

## **20 SPACECRAFT PROPULSION AND POWER**

Includes main propulsion systems and components, e.g., rocket engines; and spacecraft auxiliary power sources.

For related information see also *07 Aircraft Propulsion and Power*, *28 Propellants and Fuels*, and *44 Energy Production and Conversion*.

## **CHEMISTRY AND MATERIALS**

Includes chemistry and materials (general); composite materials; inorganic and physical chemistry; metallic materials; nonmetallic materials; and propellants and fuels.

## **23 CHEMISTRY AND MATERIALS (GENERAL)**

Includes biochemistry and organic chemistry.

## **24 COMPOSITE MATERIALS**

Includes laminates.

## **25 INORGANIC AND PHYSICAL CHEMISTRY**

Includes chemical analysis, e.g., chromatography; combustion theory; electrochemistry; and photochemistry.

For related information see also *77 Thermodynamics and Statistical Physics*.

## **26 METALLIC MATERIALS**

Includes physical, chemical, and mechanical properties of metals, e.g., corrosion; and metallurgy.

## **27 NONMETALLIC MATERIALS**

Includes physical, chemical, and mechanical properties of plastics, elastomers, lubricants, polymers, textiles, adhesives, and ceramic materials.

## **28 PROPELLANTS AND FUELS**

Includes rocket propellants, igniters, and oxidizers; storage and handling; and aircraft fuels.

For related information see also *07 Aircraft Propulsion and Power*, *20 Spacecraft Propulsion and Power*, and *44 Energy Production and Conversion*.

## **ENGINEERING**

Includes engineering (general); communications; electronics and electrical engineering; fluid mechanics and heat transfer; instrumentation and photography; lasers and masers; mechanical engineering; quality assurance and reliability; and structural mechanics.

For related information see also *Physics*.

## **31 ENGINEERING (GENERAL)**

Includes vacuum technology; control engineering; display engineering; and cryogenics.

## **32 COMMUNICATIONS**

Includes land and global communications; communications theory; and optical communications.

For related information see also *04 Aircraft Communications and Navigation* and *17 Spacecraft Communications, Command and Tracking*.

## **33 ELECTRONICS AND ELECTRICAL ENGINEERING**

Includes test equipment and maintainability; components, e.g., tunnel diodes and transistors; microminiaturization; and integrated circuitry.

For related information see also *60 Computer Operations and Hardware* and *76 Solid-State Physics*.

## **34 FLUID MECHANICS AND HEAT TRANSFER**

Includes boundary layers; hydrodynamics; fluidics; mass transfer; and ablation cooling.

For related information see also *02 Aerodynamics* and *77 Thermodynamics and Statistical Physics*.

## **35 INSTRUMENTATION AND PHOTOGRAPHY**

Includes remote sensors; measuring instruments and gages; detectors; cameras and photographic supplies; and holography.

For aerial photography see *43 Earth Resources*. For related information see also *06 Aircraft Instrumentation* and *19 Spacecraft Instrumentation*.

## **36 LASERS AND MASERS**

Includes parametric amplifiers.

## **37 MECHANICAL ENGINEERING**

Includes auxiliary systems (non-power); machine elements and processes; and mechanical equipment.

## **38 QUALITY ASSURANCE AND RELIABILITY**

Includes product sampling procedures and techniques; and quality control.

## **39 STRUCTURAL MECHANICS**

Includes structural element design and weight analysis; fatigue; and thermal stress.

For applications see *05 Aircraft Design, Testing and Performance* and *18 Spacecraft Design, Testing and Performance*.

## **GEOSCIENCES**

Includes geosciences (general); earth resources; energy production and conversion; environment pollution; geophysics; meteorology and climatology; and oceanography.

For related information see also *Space Sciences*.

## **42 GEOSCIENCES (GENERAL)**

#### **43 EARTH RESOURCES**

Includes remote sensing of earth resources by aircraft and spacecraft; photogrammetry; and aerial photography.

For instrumentation see *35 Instrumentation and Photography*.

#### **44 ENERGY PRODUCTION AND CONVERSION**

Includes specific energy conversion systems, e.g., fuel cells and batteries; global sources of energy; fossil fuels; geophysical conversion; hydroelectric power; and wind power.

For related information see also *07 Aircraft Propulsion and Power*, *20 Spacecraft Propulsion and Power*, *28 Propellants and Fuels*, and *85 Urban Technology and Transportation*.

#### **45 ENVIRONMENT POLLUTION**

Includes air, noise, thermal and water pollution; environment monitoring; and contamination control.

#### **46 GEOPHYSICS**

Includes aeronomy; upper and lower atmosphere studies; ionospheric and magnetospheric physics; and geomagnetism.

For space radiation see *93 Space Radiation*.

#### **47 METEOROLOGY AND CLIMATOLOGY**

Includes weather forecasting and modification.

#### **48 OCEANOGRAPHY**

Includes biological, dynamic and physical oceanography; and marine resources.

### **LIFE SCIENCES**

Includes life sciences (general); aerospace medicine; behavioral sciences; man/system technology and life support; and planetary biology.

#### **51 LIFE SCIENCES (GENERAL)**

Includes genetics.

#### **52 AEROSPACE MEDICINE**

Includes physiological factors; biological effects of radiation; and weightlessness.

#### **53 BEHAVIORAL SCIENCES**

Includes psychological factors; individual and group behavior; crew training and evaluation; and psychiatric research.

#### **54 MAN/SYSTEM TECHNOLOGY AND LIFE SUPPORT**

Includes human engineering; biotechnology; and space suits and protective clothing.

#### **55 PLANETARY BIOLOGY**

Includes exobiology; and extraterrestrial life.

### **MATHEMATICAL AND COMPUTER SCIENCES**

Includes mathematical and computer sciences (general); computer operations and hardware; computer programming and software; computer systems; cybernetics; numerical analysis; statistics and probability; systems analysis; and theoretical mathematics.

#### **59 MATHEMATICAL AND COMPUTER SCIENCES (GENERAL)**

#### **60 COMPUTER OPERATIONS AND HARDWARE**

Includes computer graphics and data processing.

For components see *33 Electronics and Electrical Engineering*.

#### **61 COMPUTER PROGRAMMING AND SOFTWARE**

Includes computer programs, routines, and algorithms.

#### **62 COMPUTER SYSTEMS**

Includes computer networks.

#### **63 CYBERNETICS**

Includes feedback and control theory.

For related information see also *54 Man/System Technology and Life Support*.

#### **64 NUMERICAL ANALYSIS**

Includes iteration, difference equations, and numerical approximation.

#### **65 STATISTICS AND PROBABILITY**

Includes data sampling and smoothing; Monte Carlo method; and stochastic processes.

#### **66 SYSTEMS ANALYSIS**

Includes mathematical modeling; network analysis; and operations research.

#### **67 THEORETICAL MATHEMATICS**

Includes topology and number theory.

### **PHYSICS**

Includes physics (general); acoustics; atomic and molecular physics; nuclear and high-energy physics; optics; plasma physics; solid-state physics; and thermodynamics and statistical physics.

For related information see also *Engineering*.

#### **70 PHYSICS (GENERAL)**

For geophysics see *46 Geophysics*. For astrophysics see *90 Astrophysics*. For solar physics see *92 Solar Physics*.

**71 ACOUSTICS**

Includes sound generation, transmission, and attenuation.

For noise pollution see *45 Environment Pollution*.

**72 ATOMIC AND MOLECULAR PHYSICS**

Includes atomic structure and molecular spectra.

**73 NUCLEAR AND HIGH-ENERGY PHYSICS**

Includes elementary and nuclear particles; and reactor theory.

For space radiation see *93 Space Radiation*.

**74 OPTICS**

Includes light phenomena.

**75 PLASMA PHYSICS**

Includes magnetohydrodynamics and plasma fusion.

For ionospheric plasmas see *46 Geophysics*. For space plasmas see *90 Astrophysics*.

**76 SOLID-STATE PHYSICS**

Includes superconductivity.

For related information see also *33 Electronics and Electrical Engineering* and *36 Lasers and Masers*.

**77 THERMODYNAMICS AND STATISTICAL PHYSICS**

Includes quantum mechanics; and Bose and Fermi statistics.

For related information see also *25 Inorganic and Physical Chemistry* and *34 Fluid Mechanics and Heat Transfer*.

**SOCIAL SCIENCES**

Includes social sciences (general); administration and management; documentation and information science; economics and cost analysis; law and political science; and urban technology and transportation.

**80 SOCIAL SCIENCES (GENERAL)**

Includes educational matters.

**81 ADMINISTRATION AND MANAGEMENT**

Includes management planning and research.

**82 DOCUMENTATION AND INFORMATION SCIENCE**

Includes information storage and retrieval technology; micrography; and library science.

For computer documentation see *61 Computer Programming and Software*.

**83 ECONOMICS AND COST ANALYSIS**

Includes cost effectiveness studies.

**84 LAW AND POLITICAL SCIENCE**

Includes space law; international law; international cooperation; and patent policy.

**85 URBAN TECHNOLOGY AND TRANSPORTATION**

Includes applications of space technology to urban problems; technology transfer; technology assessment; and surface and mass transportation.

For related information see *03 Air Transportation and Safety*, *16 Space Transportation*, and *44 Energy Production and Conversion*.

**SPACE SCIENCES**

Includes space sciences (general); astronomy; astrophysics; lunar and planetary exploration; solar physics; and space radiation.

For related information see also *Geosciences*.

**88 SPACE SCIENCES (GENERAL)****89 ASTRONOMY**

Includes radio and gamma-ray astronomy; celestial mechanics; and astrometry.

**90 ASTROPHYSICS**

Includes cosmology; and interstellar and interplanetary gases and dust.

**91 LUNAR AND PLANETARY EXPLORATION**

Includes planetology; and manned and unmanned flights.

For spacecraft design see *18 Spacecraft Design, Testing and Performance*. For space stations see *15 Launch Vehicles and Space Vehicles*.

**92 SOLAR PHYSICS**

Includes solar activity, solar flares, solar radiation and sunspots.

**93 SPACE RADIATION**

Includes cosmic radiation; and inner and outer earth's radiation belts.

For biological effects of radiation see *52 Aerospace Medicine*. For theory see *73 Nuclear and High-Energy Physics*.

**GENERAL****99 GENERAL**



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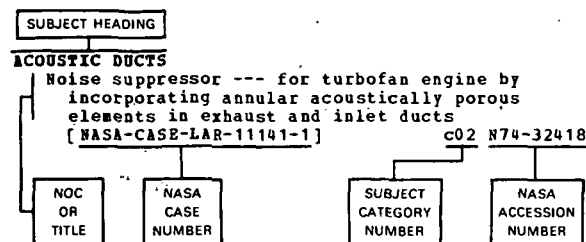
# Subject Index

## NASA PATENT ABSTRACTS BIBLIOGRAPHY

JANUARY 1977

### Section 2

#### Typical Subject Index Listing



The subject heading is the key to the subject content of the document. A brief description of the document, e.g., title, title plus a title extension, or Notation of Content (NOC), is included for each subject entry to indicate the subject heading context; these descriptions are arranged under each subject heading in ascending accession number order. The NASA Case Number serves as the prime access number to the patent documents. The Subject Category Number indicates the category in Section 1 (Abstracts) in which the patent citation and abstract are located. The NASA accession number denotes the number by which the citation is identified within the subject category.

#### ABLATION

- Transpirationally cooled heat ablation system for interplanetary spacecraft reentry shielding [NASA-CASE-XMS-02677] c31 N70-42075
- Hypersonic test facility for studying ablation in models under high pressure and high temperature [NASA-CASE-XLA-00378] c11 N71-15925
- Design of hypersonic test facility for ablation tests and performance tests of vehicles under conditions of high temperature and pressure [NASA-CASE-XLA-05378] c11 N71-21475
- Ablation sensor for measuring char layer recession rate using electric wires [NASA-CASE-XLA-01794] c33 N71-21586
- Ablation sensor for measuring surface ablation rate of material on vehicles entering earths atmosphere on entry into planetary atmospheres [NASA-CASE-XLA-04791] c14 N71-22991
- Ablative system with liquid carrying ablative material bodies and forming self-replacing ablative surface [NASA-CASE-LEW-10359] c33 N72-25911

#### ABLATIVE MATERIALS

- Filling honeycomb matrix with deaerated paste filler [NASA-CASE-XMS-01108] c15 N69-24322
- Sensor device with switches for measuring surface recession of charring and noncharring ablators [NASA-CASE-XLA-01781] c14 N69-39975
- Vacuum method for molding thermosetting compounds used as ablative materials [NASA-CASE-XLA-01091] c15 N71-10672
- Ablative resins used for retarding regression in ablative material [NASA-CASE-XLE-05913] c33 N71-14032
- Design, development, and characteristics of ablation structures [NASA-CASE-XMS-01816] c33 N71-15623
- Method and apparatus for fabrication of heat insulating and ablative reentry structure [NASA-CASE-XMS-02009] c33 N71-20834
- Production and application of sprayable fiber reinforced ablation material [NASA-CASE-XLA-04251] c18 N71-26100
- Ablative heat shield for protection from aerodynamic heating of reentry spacecraft [NASA-CASE-MSC-12143-1] c33 N72-17947
- Ablative system with liquid carrying ablative material bodies and forming self-replacing

- ablative surface [NASA-CASE-LEW-10359] c33 N72-25911
- Carrier liquid system containing bodies of ablative material [NASA-CASE-LEW-10359-2] c33 N73-25952
- Ablation article and surface for analyzing flow transition on ablative surface [NASA-CASE-LAR-10439-1] c33 N73-27796
- Dual measurement ablation sensor [NASA-CASE-LAR-10105-1] c33 N74-15652
- ABORT APPARATUS**
- Coupling device for linear shaped charge for space vehicle abort system [NASA-CASE-XLA-00189] c33 N70-36846
- ABRASION RESISTANCE**
- Zinc dust formulation for abrasion resistant steel coatings [NASA-CASE-GSC-10361-1] c18 N72-23581
- Abrasion resistant coatings for plastic surfaces [NASA-CASE-ARC-10915-1] c27 N76-13292
- ABSORBENTS**
- Absorbent apparatus for separating gas from liquid-gas stream used in environmental control under zero gravity conditions [NASA-CASE-XMS-01492] c05 N70-41297
- Fluid flow control valve for regulating fluids in molecular quantities [NASA-CASE-XLE-00703] c15 N71-15967
- Noncontaminating swab with absorbent end covered with netted envelope to prevent egress of absorbent material [NASA-CASE-MFS-18100] c15 N72-11390
- Protein sterilization of firefly luciferase without denaturation [NASA-CASE-GSC-10225-1] c06 N73-27086
- Aldehyde-containing urea-absorbing polysaccharides [NASA-CASE-NPO-13620-1] c23 N76-26278
- Oil and fat absorbing polymers [NASA-CASE-NPO-11609-A] c27 N76-26345
- ABSORBERS (MATERIALS)**
- Broadband chokes and absorbers to reduce spurious radiation patterns of antenna array caused by support structures [NASA-CASE-XMS-05303] c07 N69-27462
- Analytical photoionization mass spectrometer with argon gas filter between light source and monochromator [NASA-CASE-LAR-10180-1] c06 N71-13461
- Development of filter system for control of outgas contamination in vacuum conditions using absorbent beds of molecular sieve zeolite, silica gel, and charcoal [NASA-CASE-MFS-14711] c15 N71-26185
- Development and characteristics of calorimeter with integral heat sink for maintenance of constant temperature [NASA-CASE-XMF-04208] c33 N71-29051
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## AC GENERATORS

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- Regenerable device for scrubbing breathable air of CO2 and moisture without special heat exchanger equipment --- spacecraft cabin atmospheres  
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- AIR TRAFFIC CONTROL**
- Traffic control system for supersonic transports using synchronous satellite for data relay between vehicles and ground station  
[NASA-CASE-GSC-10087-1] c02 N71-19287
- Satellite aided aircraft collision avoidance system effective for large number of aircraft  
[NASA-CASE-ERC-10090] c21 N71-24948
- System and method for position locating for air traffic control involving supersonic transports  
[NASA-CASE-GSC-10087-3] c07 N72-12080
- AIRBORNE EQUIPMENT**
- Inflatable radar reflector unit - lightweight, highly reflective to electromagnetic radiation, and adaptable for erection and deployment with minimum effort and time  
[NASA-CASE-XMS-00893] c07 N70-40063
- Charge-coupled device data processor for an airborne imaging radar system  
[NASA-CASE-NPO-13587-1] c32 N75-26206
- AIRBORNE/SPACEBORNE COMPUTERS**
- Logic circuit to ripple add and subtract binary counters for spaceborne computers  
[NASA-CASE-XGS-04766] c08 N71-18602
- Shared memory for a fault-tolerant computer  
[NASA-CASE-NPO-13139-1] c60 N76-21914
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- Pilot warning indicator system of intruder aircraft  
[NASA-CASE-ERC-10226-1] c14 N73-16483
- AIRCRAFT ACCIDENTS**
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[NASA-CASE-ERC-10090] c21 N71-24948
- AIRCRAFT APPROACH SPACING**
- Economical satellite aided vehicle avoidance system for preventing midair collisions  
[NASA-CASE-ERC-10419] c21 N72-21631
- AIRCRAFT CONFIGURATIONS**
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[NASA-CASE-ARC-10470-1] c02 N73-26005  
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[NASA-CASE-LAR-11087-1] c02 N73-26008
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[NASA-CASE-XLA-06958] c02 N71-11038  
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[NASA-CASE-XAC-08972] c02 N71-20570  
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[NASA-CASE-XAC-10019] c15 N71-23809  
Direct lift control system having flaps with slots adjacent to their leading edge and particularly adapted for lightweight aircraft  
[NASA-CASE-LAR-10249-1] c02 N71-26110  
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[NASA-CASE-XLA-08967] c02 N71-27088  
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[NASA-CASE-XAC-00048] c02 N71-29128  
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[NASA-CASE-NSC-13397-1] c21 N72-25595  
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[NASA-CASE-ERC-10439] c02 N73-19004  
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[NASA-CASE-ERC-10350] c14 N73-20474  
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[NASA-CASE-LAR-10682-1] c02 N73-26004  
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[NASA-CASE-ARC-10456-1] c05 N75-12930  
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[NASA-CASE-LAR-11252-1] c05 N75-25914
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[NASA-CASE-XLA-04451] c02 N71-12243  
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[NASA-CASE-ARC-10470-1] c02 N73-26005  
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[NASA-CASE-XMP-02263] c02 N74-10907  
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[NASA-CASE-LAR-11252-1] c05 N75-25914  
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[NASA-CASE-LAR-11868-1] c08 N76-19159  
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[NASA-CASE-LAR-11932-1] c05 N76-31219
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[NASA-CASE-ERC-10412-1] c09 N73-12211
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[NASA-CASE-LAR-11141-1] c02 N74-32418
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[NASA-CASE-ERC-10081] c14 N72-28437  
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[NASA-CASE-LAR-11645-1] c02 N74-26456
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[NASA-CASE-PRC-10049-1] c21 N74-13420
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[NASA-CASE-LEW-11187-1] c28 N73-19793
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[NASA-CASE-XLA-00100] c14 N70-36807  
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[NASA-CASE-XLA-00481] c14 N70-36824  
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[NASA-CASE-XLA-00487] c14 N70-40157  
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[NASA-CASE-XNP-03853] c23 N71-21882  
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[NASA-CASE-XLA-01907] c14 N71-23268  
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[NASA-CASE-ERC-10392] c21 N73-14692  
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[NASA-CASE-ARC-10806-1] c35 N75-29381  
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[NASA-CASE-XLA-00806] c02 N70-34858  
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[NASA-CASE-ARC-10179-1] c21 N72-22619  
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[NASA-CASE-ARC-10456-1] c05 N75-12930  
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[NASA-CASE-ARC-10808-1] c09 N76-24280
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[NASA-CASE-ARC-10806-1] c35 N75-29381
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[NASA-CASE-XLA-00939] c11 N71-15926  
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[NASA-CASE-XLA-07430] c11 N72-22246  
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[NASA-CASE-LAR-11575-1] c02 N76-16014
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[NASA-CASE-LAR-11476-1] c07 N76-27232
- AIRCRAFT PERFORMANCE**  
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[NASA-CASE-LAR-10574-1] c11 N73-13257

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[NASA-CASE-LAR-10550-1] c11 N74-30597

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[NASA-CASE-HQN-10703] c21 N73-13643  
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[NASA-CASE-LAR-10753-1] c02 N74-30421

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Mechanical stabilization system for VTOL aircraft  
[NASA-CASE-XLA-06339] c02 N71-13422  
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[NASA-CASE-LAR-10682-1] c02 N73-26004

## AIRCRAFT STRUCTURES

Fatigue testing device applying random discrete load levels to test specimen and applicable to aircraft structures  
[NASA-CASE-XLA-02131] c32 N70-42003  
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[NASA-CASE-XPR-03802] c33 N71-23085  
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[NASA-CASE-PRC-10051-1] c14 N74-13129  
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[NASA-CASE-ARC-10813-1] c27 N76-16230

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[NASA-CASE-LAR-11669-1] c34 N76-13419

## AIRFOILS

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[NASA-CASE-XLA-00755] c01 N71-13410  
Electric analog for measuring induced drag on nonplanar airfoils  
[NASA-CASE-XLA-05828] c01 N71-13411  
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[NASA-CASE-LAR-11522-1] c15 N74-34881  
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[NASA-CASE-ARC-11046-1] c35 N76-28535

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Design of dual fuselage aircraft with pivoting wing and horizontal stabilizer to permit yawing of wing in flight for high speed operation  
[NASA-CASE-ARC-10470-1] c02 N73-26005

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[NASA-CASE-XLA-00806] c02 N70-34858

## ALCOHOLS

New trifunctional alcohol derived from trimer acid and novel method of preparation  
[NASA-CASE-NPO-10714] c06 N69-31244  
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[NASA-CASE-MFS-20180] c16 N72-12440

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[NASA-CASE-XNP-08655] c06 N71-11239  
Synthesis of azine polymers for heat shields by azine-aromatic aldehyde reaction  
[NASA-CASE-XNP-08656] c06 N71-11242  
Synthesis of aromatic diamines and dialdehyde polymers using Schiff base  
[NASA-CASE-XNP-03074] c06 N71-24740  
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[NASA-CASE-NPO-13620-1] c23 N76-26278

## ALIGNMENT

Centering device with ultrafine adjustment for use with roundness measuring apparatus  
[NASA-CASE-XNP-00480] c14 N70-39898  
Portable device for aligning surfaces of two adjacent wall or sheet sections for joining at point of junction

[NASA-CASE-XNP-01452] c15 N70-41371  
Electro-optical/computer system for aligning large structural members and maintaining correct position  
[NASA-CASE-XNP-02029] c14 N70-41955  
Electrical and electromechanical trigonometric computation assembly and space vehicle guidance system for aligning perpendicular axes of two sets of three-axes coordinate references  
[NASA-CASE-XNP-00684] c21 N71-21688  
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[NASA-CASE-XMS-04178] c15 N71-22798  
Laser beam projector for continuous, precise alignment between target, laser generator, and astronomical telescope during tracking  
[NASA-CASE-WPO-11087] c23 N71-29125  
Measuring roll alignment of test body with respect to reference body  
[NASA-CASE-GSC-10514-1] c14 N72-20379  
Guide accessories for correctly aligning paper in typewriter to correct typographical errors  
[NASA-CASE-MPS-15218-1] c15 N73-31438  
Design of precision vertical alignment system using laser with gravitationally sensitive cavity  
[NASA-CASE-ARC-10444-1] c16 N73-33397  
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[NASA-CASE-LAR-11658-1] c37 N76-13494  
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[NASA-CASE-MSC-12559-1] c18 N76-14186  
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[NASA-CASE-LEW-11876-1] c20 N76-21276  
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[NASA-CASE-ARC-10932-1] c74 N76-22993

## ALKALI METALS

Ultraviolet radiation resistant alkali-metal silicate coatings for temperature control of spacecraft  
[NASA-CASE-XGS-04119] c18 N69-39979  
Analytical test apparatus and method for determining oxygen content in alkali liquid metal  
[NASA-CASE-XLE-01997] c06 N71-23527  
Composition and production method of alkali metal silicate paint with ultraviolet reflection properties  
[NASA-CASE-XGS-04799] c18 N71-24183  
Design and characteristics of heat activated electric cell with anode made from one or more alkali metals and cathode made from oxidizing material  
[NASA-CASE-LEW-11358] c03 N71-26084  
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[NASA-CASE-XNP-08876] c17 N73-28573

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Method for determining state of charge of alkali batteries by using tritium as tracer  
[NASA-CASE-XNP-01464] c03 N71-10728  
Alkaline-type coulometer cell for primary charge control in secondary battery recharge circuits  
[NASA-CASE-XGS-05434] c03 N71-20491  
Flexible formulated plastic separators for alkaline batteries  
[NASA-CASE-LEW-12363-1] c44 N76-19552  
Inorganic-organic battery separator for alkaline batteries  
[NASA-CASE-LEW-12649-1] c44 N76-31674

## ALKYL COMPOUNDS

Preparation of fluoroalkoxy ethers by reacting fluoroalkylene oxides with alkali salt of polyfluoroalkylene diol  
[NASA-CASE-MPS-10507] c06 N73-30101

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Brazing alloy adapted for brazing corrosion resistant steel to refractory metals, also for brazing refractory metals to other refractory metals  
[NASA-CASE-XNP-03063] c17 N71-23365  
Metal alloy bearing materials for space applications  
[NASA-CASE-XLE-05033] c15 N71-23810  
High thermal emittance black surface coatings and process for applying to metal and metal

- alloy surfaces used in radiative cooling of spacecraft  
[NASA-CASE-XLA-06199] c15 N71-24875
- Adjustable rigid mount for trihedral mirror formed of alloy with small coefficient of thermal expansion supporting screws and spring-biased plates  
[NASA-CASE-XNP-08907] c23 N71-29123
- Two-step diffusion welding process of unrecrystallized alloys  
[NASA-CASE-LEW-11388-1] c15 N73-32358
- Brazing alloy binder  
[NASA-CASE-XNP-05868] c26 N75-27125
- Brazing alloy  
[NASA-CASE-XNP-03878] c26 N75-27127
- ALPHANUMERIC CHARACTERS**
- X-Y alphanumeric character generator for oscilloscopes  
[NASA-CASE-GSC-11582-1] c33 N75-19517
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- Characteristics of high power, low distortion, alternating current power amplifier  
[NASA-CASE-LAR-10218-1] c09 N70-34559
- Frequency control network for current feedback oscillators converting dc voltage to ac or higher dc voltages  
[NASA-CASE-GSC-10041-1] c10 N71-19418
- Blood pressure measuring system for separately recording dc and ac pressure signals of Korotkoff sounds  
[NASA-CASE-XMS-06061] c05 N71-23317
- Solid state circuit for switching alternating current input signal as function of direct current gating transistor  
[NASA-CASE-XNP-06505] c10 N71-24799
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[NASA-CASE-HPS-10068] c10 N71-25139
- Inverters for changing direct current to alternating current  
[NASA-CASE-XGS-06226] c10 N71-25950
- Dc to ac to dc converter with transistor driven synchronous rectifiers  
[NASA-CASE-GSC-11126-1] c09 N72-25253
- Phase protection system for ac power lines  
[NASA-CASE-HSC-17832-1] c10 N74-14956
- Power factor control system for ac induction motors  
[NASA-CASE-MPS-23280-1] c33 N76-28471
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- Combined optical attitude and altitude indicating instrument for use in aircraft or spacecraft  
[NASA-CASE-XLA-01907] c14 N71-23268
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[NASA-CASE-XLA-00128] c15 N70-37925
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[NASA-CASE-HPS-07369] c15 N71-20443
- Low concentration alkaline solution treatment of aluminum with metal phosphate surface coatings to improve chemical bonding and reduce coating weight  
[NASA-CASE-XLA-01995] c18 N71-23047
- Etching aluminum alloys with aqueous solution containing sulfuric acid, hydrofluoric acid, and an alkali metal dischromate for adhesive bonding  
[NASA-CASE-XNP-02303] c17 N71-23828
- Process for producing dispersion strengthened nickel with aluminum comprising metallic matrices embedded with oxides or other hyperfine compounds  
[NASA-CASE-XLE-06969] c17 N71-24142
- Nickel plating onto etched aluminum castings  
[NASA-CASE-XNP-04148] c17 N71-24830
- Method of plating copper on aluminum to permit conventional soldering of structural aluminum bodies  
[NASA-CASE-XLA-08966-1] c17 N71-25903
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[NASA-CASE-LEW-11359] c03 N71-28579
- Heat activated cell with aluminum anode  
[NASA-CASE-LEW-11359-2] c03 N72-20034
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[NASA-CASE-XNP-02303] c17 N71-23828
- Method of producing complex aluminum alloy parts of high temper, and products thereof  
[NASA-CASE-HSC-19693-1] c26 N76-29401
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[NASA-CASE-LEW-11267-1] c17 N73-32414
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[NASA-CASE-NPO-11975-1] c27 N74-33209
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[NASA-CASE-LAR-10629-1] c35 N75-33367
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[NASA-CASE-XNP-02139] c18 N71-24184
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[NASA-CASE-XNP-08655] c06 N71-11239
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[NASA-CASE-XNP-08652] c06 N71-11243
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[NASA-CASE-ARC-10469-1] c25 N75-12086
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[NASA-CASE-XGS-01222] c10 N71-20841
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[NASA-CASE-XAC-05422] c04 N71-23185  
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[NASA-CASE-NPO-10548] c16 N71-24831  
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[NASA-CASE-XPR-07172] c05 N71-27234  
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[NASA-CASE-XAC-05462-2] c10 N72-17171  
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[NASA-CASE-XAC-04030] c10 N71-19472  
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[NASA-CASE-ARC-10466-1] c60 N75-13539  
Electronic analog divider  
[NASA-CASE-LEW-11881-1] c33 N75-28316
- ANALOG COMPUTERS**  
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output angles for obtaining desired spatial  
attitude  
[NASA-CASE-GSC-10860-1] c08 N72-11172
- ANALOG DATA**  
Data compression processor for monitoring analog  
signals by sampling procedure  
[NASA-CASE-NPO-10068] c08 N71-19288  
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[NASA-CASE-XGS-02612] c08 N71-19435  
Analog signal to discrete time converter  
[NASA-CASE-ERC-10048] c09 N72-25251  
Digital plus analog output encoder  
[NASA-CASE-GSC-12115-1] c62 N76-31946  
Velocity measurement system  
[NASA-CASE-MPS-23363-1] c35 N76-33469
- ANALOG SIMULATION**  
Apparatus for simulating optical transmission  
links  
[NASA-CASE-GSC-11877-1] c74 N76-18913
- ANALOG TO DIGITAL CONVERTERS**  
Conversion system for increasing resolution of  
analog to digital converters  
[NASA-CASE-XAC-00404] c08 N70-40125  
Analog to digital converter for converting  
pulses to frequencies  
[NASA-CASE-XLA-00670] c08 N71-12501  
Describing continuous analog to digital  
converter with parallel digital output and  
nonlinear feedback  
[NASA-CASE-XAC-04031] c08 N71-18594  
Voltage drift compensation circuit for  
analog-to-digital converter  
[NASA-CASE-XNP-04780] c08 N71-19687  
Development and characteristics of fluid  
oscillator analog to digital converter with  
variable frequency controlled by signal  
passing through conditioning circuit  
[NASA-CASE-LEW-10345-1] c10 N71-25899  
Data acquisition system for converting displayed  
analog signal to digital values  
[NASA-CASE-NPO-10344] c10 N71-26544  
Apparatus for automatically testing analog to  
digital converters for open and short circuits  
[NASA-CASE-XLA-06713] c14 N71-28991  
Wide range analog to digital converter with  
variable gain amplifier  
[NASA-CASE-NPO-11018] c08 N72-21200  
Analog to digital converter using offset voltage  
to eliminate errors  
[NASA-CASE-MSC-13110-1] c08 N72-22163  
Analog to digital converter analyzing system  
[NASA-CASE-NPO-10560] c08 N72-22166  
Control and information system for digital  
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digitize sensed parameter values  
[NASA-CASE-NPO-11016] c08 N72-31226  
Nonrecursive counting digital filter containing  
shift register  
[NASA-CASE-NPO-11821-1] c08 N73-26175  
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height analysis  
[NASA-CASE-XNP-00477] c08 N73-28045  
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[NASA-CASE-NPO-13385-1] c33 N76-18345  
Two-dimensional radiant energy array computers  
and computing devices --- analog to digital  
converters  
[NASA-CASE-GSC-11839-3] c60 N76-18804
- ANALYZERS**  
Mixed liquid and vapor phase analyzer design  
with thermocouples for relative heat transfer  
measurement  
[NASA-CASE-NPO-10691] c14 N71-26199  
Automated fluid chemical analyzer for  
microchemical analysis of small quantities of

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liquids by use of selected reagents and analyzer units  
[NASA-CASE-XNP-09451] c06 N71-26754  
Micrometeoroid analyzer using arrays of interconnected capacitors and ion detector  
[NASA-CASE-ARC-10443-1] c14 N73-20477  
NDIR gas analyzer based on absorption modulation ratios for known and unknown samples  
[NASA-CASE-ARC-10802-1] c35 N75-30502  
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[NASA-CASE-XNP-05224] c14 N71-23726  
Maxometers for measuring peak wind speeds during severe environmental conditions  
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## ANGLES (GEOMETRY)

Gage for measuring internal angle of flare on end of tube  
[NASA-CASE-XNP-04415] c14 N71-24693  
Optical device containing rotatable prism and reflecting mirror for generating precise angles  
[NASA-CASE-XGS-04173] c19 N71-26674  
Rotating raster generator  
[NASA-CASE-PRC-10071-1] c07 N74-20813

## ANGULAR ACCELERATION

Strain gage accelerometer for angular acceleration measurement  
[NASA-CASE-XMS-05936] c14 N70-41682

## ANGULAR CORRELATION

Device for determining relative angular position of spacecraft and radiating celestial body  
[NASA-CASE-GSC-11444-1] c14 N73-28490

## ANGULAR MOMENTUM

Stretch Yo-Yo mechanism for reducing initial spin rate of space vehicle  
[NASA-CASE-XGS-00619] c30 N70-40016

## ANGULAR RESOLUTION

Characteristics and performance of electrical system to determine angular rotation  
[NASA-CASE-XNP-00447] c14 N70-33179

## ANGULAR VELOCITY

Describing angular position and velocity sensing apparatus  
[NASA-CASE-XGS-05680] c14 N71-17585

## ANHYDRIDES

Perfluoro alkylene dioxy-bis-(4-phthalic anhydrides and oxy-bis-(perfluoroalkyleneoxyphthalic anhydrides  
[NASA-CASE-MFS-22356-1] c23 N75-30256

## ANILINE

Synthesis of high purity dianilinosilanes  
[NASA-CASE-XNP-06409] c06 N71-23230

## ANIMALS

Automatic real-time pair-feeding system for animals  
[NASA-CASE-ARC-10302-1] c04 N74-15778  
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[NASA-CASE-ARC-10917-1] c37 N76-20485

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Recovering efficiency of solar cells damaged by environmental radiation through thermal annealing  
[NASA-CASE-XGS-04047-2] c03 N72-11062

## ANNULAR NOZZLES

Large area-ratio nozzles for rocket motor thrust chambers  
[NASA-CASE-XLE-00145] c28 N70-36806  
Electrostatic microthrust propulsion system with annular slit colloid thruster  
[NASA-CASE-GSC-10709-1] c28 N71-25213

## ANNULAR PLATES

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## ANODES

Design and characteristics of heat activated electric cell with anode made from one or more alkali metals and cathode made from oxidizing material  
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Storage battery comprising negative plates of a wedge shaped configuration --- for preventing shape change induced malfunctions  
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[NASA-CASE-HQN-10862-1] c44 N76-29699  
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[NASA-CASE-LEW-11101-1] c31 N73-32750
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[NASA-CASE-XLA-00221] c02 N70-33266  
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[NASA-CASE-XLA-00166] c02 N70-34178  
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[NASA-CASE-XLA-05332] c05 N71-11194  
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[NASA-CASE-LAR-10007-1] c05 N71-11195  
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[NASA-CASE-XAC-07043] c05 N71-23161  
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[NASA-CASE-XMS-09637-1] c05 N71-24320  
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[NASA-CASE-ARC-10153] c05 N71-28619
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[NASA-CASE-XMP-07488] c11 N71-18773  
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[NASA-CASE-MPS-20130] c28 N71-27585
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[NASA-CASE-ARC-10153] c05 N71-28619
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[NASA-CASE-XMS-02977] c11 N71-10746  
Low and zero gravity simulator for astronaut training  
[NASA-CASE-MPS-10555] c11 N71-19494  
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[NASA-CASE-XMS-04798] c11 N71-21474
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[NASA-CASE-MPS-21042] c07 N72-25171  
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[NASA-CASE-HSC-10966] c14 N71-19568

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[NASA-CASE-NPO-11087] c23 N71-29125

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[NASA-CASE-LAR-10523-1] c14 N72-22444

## ATMOSPHERIC COMPOSITION

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[NASA-CASE-NPO-11373] c13 N72-25323

Development and operation of apparatus for sampling particulates in gases in upper atmosphere

[NASA-CASE-HQN-10037-1] c14 N73-27376

Monitoring atmospheric pollutants with a heterodyne radiometer transmitter-receiver

[NASA-CASE-NPO-11919-1] c14 N74-11284

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Designing spacecraft for flight into space, atmospheric reentry, and landing at selected sites

[NASA-CASE-IAC-02058] c02 N71-16087

Development of method for measuring electron density gradients of plasma sheath around space vehicle during atmospheric entry

[NASA-CASE-XLA-06232] c25 N71-20563

Orbital and entry tracking accessory for globes --- to provide range requirements for reentry vehicles to any landing site

[NASA-CASE-LAR-10626-1] c14 N74-21015

## ATMOSPHERIC ENTRY SIMULATION

Crossed-field plasma accelerator for laboratory simulation of atmospheric reentry conditions

[NASA-CASE-XLA-00675] c25 N70-33267

Wind tunnel method for simulating flow fields around blunt vehicles entering planetary atmospheres without involving high temperatures

[NASA-CASE-LAR-11138] c12 N71-20436

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Development and characteristics of apparatus for measuring intensity of electric field in atmosphere

[NASA-CASE-HSC-10730-1] c14 N73-32318

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Radiometric measuring system for solar activity and atmospheric attenuation and emission

[NASA-CASE-ERC-10276] c14 N73-26432

## ATMOSPHERIC SCATTERING

Clear air turbulence detector

[NASA-CASE-HPS-21244-1] c36 N75-15028

Scattering independent determination of absorption and emission coefficients and radiative equilibrium state

[NASA-CASE-NPO-13677-1] c35 N75-16791

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Passive optical wind and turbulence remote detection system

[NASA-CASE-XMP-14032] c20 N71-16340

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Portable cryogenic cooling system design including turbine pump, cooling chamber, and atomizer

[NASA-CASE-NPO-10467] c23 N71-26654

## ATS

Doppler frequency shift correction device for multiplex communication with Applications Technology Satellites

[NASA-CASE-XGS-02749] c07 N69-39978

## ATTACHMENT

Silicon carbide backward diode with coated lead attachment

[NASA-CASE-ERC-10224-2] c09 N73-27150

## ATTENUATORS

Rotary vane attenuator with two stators and intermediary rotor, using resistive and orthogonally disposed cards

[NASA-CASE-NPO-11418-1] c14 N73-13420

## ATTITUDE (INCLINATION)

Analog spatial maneuver computer with three output angles for obtaining desired spatial attitude

[NASA-CASE-GSC-10880-1] c08 N72-11172

Spacecraft attitude sensing system design with narrow field of view sensor rotating about spacecraft x-y axis

[NASA-CASE-GSC-10890-1] c21 N73-30640

Interferometer mirror tilt correcting system

[NASA-CASE-NPO-13687-1] c35 N76-14433

## ATTITUDE CONTROL

Visual target luminaires for retrofire attitude control

[NASA-CASE-XHS-12158-1] c31 N69-27499

Unitary three-axis controller for flight vehicles within or outside atmosphere

[NASA-CASE-IPR-00181] c21 N70-33279

Sensing method and device for determining orientation of space vehicle or satellite by using particle traps

[NASA-CASE-XGS-00466] c21 N70-34297

Attitude and propellant flow control system for liquid propellant rocket vehicles

[NASA-CASE-XMP-00185] c21 N70-34539

Spacecraft attitude control system using solar and earth sensors, gyroscopes, and jet actuators

[NASA-CASE-XNP-00465] c21 N70-35395

Attitude control device for space vehicles

[NASA-CASE-XNP-00294] c21 N70-36938

Attitude orientation control of spin stabilized final stage space vehicles, using horizon

scanners

[NASA-CASE-XLA-00281] c21 N70-36943

Automatic ejection valve for attitude control and midcourse guidance of space vehicles

[NASA-CASE-XNP-00676] c15 N70-38996

Three-axis controller operated by hand-wrist motion for yaw, pitch, and roll control

[NASA-CASE-IAC-01404] c05 N70-41581

Attitude control training device for astronauts permitting friction-free movement with five

degrees of freedom

[NASA-CASE-XHS-02977] c11 N71-10746

Photomultiplier detector of Canopus for spacecraft attitude control

[NASA-CASE-XNP-03914] c21 N71-10771

Automatic balancing device for use on frictionless supported attitude-controlled

test platforms

[NASA-CASE-LAR-10774] c10 N71-13545

Development of spacecraft experiment pointing and attitude control system

[NASA-CASE-XLA-05464] c21 N71-14132

Development of attitude control system for spacecraft orientation

[NASA-CASE-XGS-04393] c21 N71-14159

System for aerodynamic control of rocket vehicles by secondary injection of fluid into

nozzle exhaust stream

[NASA-CASE-XLA-01163] c21 N71-15582

Drive mechanism for operating reactance attitude control system for aerospace bodies

[NASA-CASE-XMP-01598] c21 N71-15583

Attitude detection system using stellar references for three-axis control and spin

stabilized spacecraft

[NASA-CASE-XGS-03431] c21 N71-15642

Remote control device operated by movement of finger tips for manual control of spacecraft

attitude

[NASA-CASE-IAC-02405] c09 N71-16089

Thrust and attitude control apparatus using jet nozzle in movable canard surface or fin

configuration

[NASA-CASE-XLE-03583] c31 N71-17629

Attitude sensor with scanning mirrors for detecting orientation of space vehicle with

respect to planet

[NASA-CASE-XLA-00793] c21 N71-22880

Development of attitude control system for sounding rocket stabilization during ballistic

phase of flight

[NASA-CASE-XGS-01654] c31 N71-24750

Development of voice operated controller for controlling reaction jets of spacecraft

[NASA-CASE-XLA-04063] c31 N71-33160

Attitude sensor

[NASA-CASE-LAR-10586-1] c14 N74-15089

Temperature compensated digital inertial sensor --- circuit for maintaining inertial element

of gyroscope or accelerometer at constant

position

[NASA-CASE-NPO-13044-1] c14 N74-15094

## ATTITUDE GYROS

## SUBJECT INDEX

- Sun direction detection system --- for use in controlling the attitude of a vehicle  
[NASA-CASE-NPO-13722-1] c19 N75-33169
- ATTITUDE GYROS**
- Spacecraft attitude control system using solar and earth sensors, gyroscopes, and jet actuators  
[NASA-CASE-XNP-00465] c21 N70-35395
- An attitude control system  
[NASA-CASE-MPS-22787-1] c21 N74-35096
- ATTITUDE INDICATORS**
- Photosensitive light source device for detecting unmanned spacecraft deviation from reference attitude  
[NASA-CASE-XNP-00438] c21 N70-35089
- Hand controller operable about three respectively perpendicular axes and capable of actuating signal generators for attitude control devices  
[NASA-CASE-XHS-07487] c15 N71-23255
- Combined optical attitude and altitude indicating instrument for use in aircraft or spacecraft  
[NASA-CASE-XLA-01907] c14 N71-23268
- Aircraft horizon and vertical indicator  
[NASA-CASE-ERC-10392] c21 N73-14692
- Attitude sensor  
[NASA-CASE-LAR-10586-1] c14 N74-15089
- Translatory shock absorber for attitude sensors  
[NASA-CASE-MPS-22905-1] c19 N76-22284
- ATTITUDE STABILITY**
- Dynamic precession damping of spin-stabilized vehicles by using rate gyroscope and angular accelerometer  
[NASA-CASE-XLA-01989] c21 N70-34295
- Attitude stabilizer for nonguided missile or vehicle with respect to trajectory  
[NASA-CASE-ARC-10134] c30 N72-17873
- Strapped down gyroscope aligned with sun and star tracker optical axis calibrating roll, yaw and pitch values  
[NASA-CASE-ARC-10716-1] c31 N73-32784
- AUDIO EQUIPMENT**
- Audio equipment for removing impulse noise from audio signals  
[NASA-CASE-NPO-11631] c10 N73-12244
- AUDIO FREQUENCIES**
- High efficiency transformerless amplitude modulator coupled to RF power amplifier  
[NASA-CASE-GSC-10668-1] c07 N71-28430
- Audio frequency analysis circuit for determining, displaying, and recording frequency of sweeping audio frequency signal  
[NASA-CASE-NPO-11147] c14 N72-27408
- AUDITORY PERCEPTION**
- Auditory display for the blind  
[NASA-CASE-HQN-10832-1] c14 N74-21014
- AUDITORY SIGNALS**
- Audio signal processing system for noise surge elimination at low amplitude audio input  
[NASA-CASE-MSC-12223-1] c07 N71-26181
- Audio equipment for removing impulse noise from audio signals  
[NASA-CASE-NPO-11631] c10 N73-12244
- AUDITORY STIMULI**
- Auditory display for the blind  
[NASA-CASE-HQN-10832-1] c14 N74-21014
- AUSTENITIC STAINLESS STEELS**
- Intermetallic chromium containing nickel aluminate for high temperature corrosion protection of stainless steels  
[NASA-CASE-LEW-11267-1] c17 N73-32414
- Device for measuring the ferrite content in an austenitic stainless-steel weld  
[NASA-CASE-MPS-22907-1] c26 N76-18257
- AUTOCORRELATION**
- Linear three-tap feedback shift register  
[NASA-CASE-NPO-10351] c08 N71-12503
- Circuitry for developing autocorrelation function continuously within signal receiving period  
[NASA-CASE-XNP-00746] c07 N71-21476
- AUTOMATIC CONTROL**
- Automatic control of voltage supply to direct current motor  
[NASA-CASE-XMS-04215-1] c09 N69-39987
- Electro-optical/computer system for aligning large structural members and maintaining correct position  
[NASA-CASE-XNP-02029] c14 N70-41955
- Pulsed energy power system for application of combustible gases to turbine controlling ac voltage generator  
[NASA-CASE-MSC-13112] c03 N71-11057
- Automatic balancing device for use on frictionless supported attitude-controlled test platforms  
[NASA-CASE-LAR-10774] c10 N71-13545
- Computer controlled apparatus for maintaining welding torch angle and velocity during seam tracking  
[NASA-CASE-XNP-03287] c15 N71-15607
- Fluid leakage detection system with automatic monitoring capability  
[NASA-CASE-LAR-10323-1] c12 N71-17573
- Light sensitive control system for automatically opening and closing dome of solar optical telescope  
[NASA-CASE-MSC-10966] c14 N71-19568
- Welding torch with automatic speed controller using speed sensing wheel and closed servo system  
[NASA-CASE-XNP-01730] c15 N71-23050
- Microwave waveguide switch with rotor position control  
[NASA-CASE-XNP-06507] c09 N71-23548
- Automatically reciprocating, high pressure pump for use in spacecraft cryogenic propellants  
[NASA-CASE-XNP-04731] c15 N71-24042
- Automatic controlled thermal fatigue testing apparatus  
[NASA-CASE-XLA-02059] c33 N71-24276
- Automatically charging battery of electric storage cells  
[NASA-CASE-XNP-04758] c03 N71-24605
- Electric motor control system with pulse width modulation for providing automatic null seeking servo  
[NASA-CASE-XNP-05195] c10 N71-24861
- Indexing mechanism for cathode array substitution in electron beam tube  
[NASA-CASE-NPO-10625] c09 N71-26182
- Voltage range selection apparatus for sensing and applying voltages to electronic instruments without loading signal source  
[NASA-CASE-XMS-06497] c14 N71-26244
- Automated fluid chemical analyzer for microchemical analysis of small quantities of liquids by use of selected reagents and analyzer units  
[NASA-CASE-XNP-09451] c06 N71-26754
- Automatic control device for regulating inlet water temperature of liquid cooled spacesuit  
[NASA-CASE-MSC-13917-1] c05 N72-15098
- Optimal control system for automatic speed regulation of electric driven motor vehicle  
[NASA-CASE-NPO-11210] c11 N72-20244
- Plotter device for automatically drawing equipotential lines on sheet of resistance paper  
[NASA-CASE-NPO-11134] c09 N72-21246
- Automatic shunting of ion thruster magnetic field when thruster is not operating  
[NASA-CASE-LEW-10835-1] c28 N72-22771
- Automatic temperature control for liquid cooled space suit  
[NASA-CASE-ARC-10599-1] c05 N73-26071
- Speed control system for dc motor equipped with brushless Hall effect device  
[NASA-CASE-MPS-20207-1] c09 N73-32107
- Programmable physiological infusion  
[NASA-CASE-ARC-10447-1] c05 N74-22771
- Automatically operable self-leveling load table  
[NASA-CASE-MPS-22039-1] c09 N75-12968
- Automatic focus control for facsimile cameras  
[NASA-CASE-LAR-11213-1] c35 N75-15014
- Automatic fluid dispenser  
[NASA-CASE-ARC-10820-1] c54 N75-32766
- Traffic survey system --- using optical scanners  
[NASA-CASE-MPS-22631-1] c66 N76-19888
- AUTOMATIC CONTROL VALVES**
- Ambient atmospheric pressure sensing device for determining altitude of flight vehicles  
[NASA-CASE-XLA-00128] c15 N70-37925
- Describing metal valve pintle with encapsulated elastomeric body  
[NASA-CASE-MSC-12116-1] c15 N71-17648
- Semitoroidal diaphragm cavitating flow control valve  
[NASA-CASE-XNP-09704] c12 N71-18615

Reliability of automatic refilling valving device for cryogenic liquid systems  
[NASA-CASE-NPO-11177] c15 N72-17453

Combined pressure regulator and shutoff valve  
[NASA-CASE-NPO-13201-1] c37 N75-15050

**AUTOMATIC FREQUENCY CONTROL**  
System for phase locking onto carrier frequency signal located within receiver bandpass  
[NASA-CASE-XGS-04994] c09 N69-21543

Audio signal processing system for noise surge elimination at low amplitude audio input  
[NASA-CASE-MSC-12223-1] c07 N71-26181

Automatic frequency control device for providing frequency reference for voltage controlled oscillator  
[NASA-CASE-KSC-10393] c09 N72-21247

Self-tuning electronic filter for maintaining constant bandwidth and center frequency gain  
[NASA-CASE-ARC-10264-1] c09 N73-20231

**AUTOMATIC GAIN CONTROL**  
Automatic gain control amplifier system  
[NASA-CASE-XMS-05307] c09 N69-24330

Automatic measuring and recording of gain and zero drift characteristics of electronic amplifier  
[NASA-CASE-XMS-05562-1] c09 N69-39986

Self-tuning electronic filter for maintaining constant bandwidth and center frequency gain  
[NASA-CASE-ARC-10264-1] c09 N73-20231

**AUTOMATIC TEST EQUIPMENT**  
Automated visual sensitivity tester for determining visual field sensitivity and blind spot size  
[NASA-CASE-ARC-10329-1] c05 N73-26072

Automatic microbial transfer device  
[NASA-CASE-LAR-11354-1] c35 N75-27330

Visual examination apparatus  
[NASA-CASE-RE-ARC-10329-2] c52 N76-30793

**AUTOMOBILE FUELS**  
Hydrogen rich gas generator  
[NASA-CASE-NPO-13342-2] c44 N76-29700

**AUTORADIOGRAPHY**  
Method of post-process intensification of images on photographic films and plates  
[NASA-CASE-MPS-23461-1] c35 N76-26449

**AXES (REFERENCE LINES)**  
Test fixture for measuring moment of inertia of irregularly shaped body with multiple axes  
[NASA-CASE-XGS-01023] c14 N71-22992

Mechanism for restraining universal joints to prevent separation while allowing bending, angulation, and lateral offset in any position about axis  
[NASA-CASE-XNP-02278] c15 N71-28951

**AXES OF ROTATION**  
Unitary three-axis controller for flight vehicles within or outside atmosphere  
[NASA-CASE-XPR-00181] c21 N70-33279

Proportional controller for regulating aircraft or spacecraft motion about three axes  
[NASA-CASE-XAC-03392] c03 N70-41954

Electrical and electromechanical trigonometric computation assembly and space vehicle guidance system for aligning perpendicular axes of two sets of three-axes coordinate references  
[NASA-CASE-XMP-00684] c21 N71-21688

Hand controller operable about three respectively perpendicular axes and capable of actuating signal generators for attitude control devices  
[NASA-CASE-XMS-07487] c15 N71-23255

**AXIAL COMPRESSION LOADS**  
Development and characteristics of device for indicating and recording magnitude of force applied in axial direction  
[NASA-CASE-MSC-15626-1] c14 N72-25411

**AXIAL FLOW TURBINES**  
Multistage multiple reentry axial flow reaction turbine with reverse flow reentry ducting  
[NASA-CASE-XLE-00170] c15 N70-36412

Multistage, multiple reentry, single rotor, axial flow turbine  
[NASA-CASE-XLE-00085] c28 N70-39895

**AXIAL LOADS**  
Ball locking device which releases in response to small forces when subjected to high axial loads  
[NASA-CASE-XMP-01371] c15 N70-41829

**AXIAL STRAIN**  
Miniature biaxial strain transducer  
[NASA-CASE-LAR-11648-1] c35 N76-16396

**AXIAL STRESS**  
Axially and radially controllable magnetic bearing  
[NASA-CASE-GSC-11551-1] c37 N76-18459

**AZIMUTH**  
Tracking mount for laser telescope employed in tracking large rockets and space vehicles to give information regarding azimuth and elevation  
[NASA-CASE-MPS-14017] c14 N71-26627

Long range laser traversing system  
[NASA-CASE-GSC-11262-1] c16 N74-21091

Magnetic heading reference  
[NASA-CASE-LAR-11387-2] c04 N76-26180

**AZINES**  
Synthesis of azine polymers for heat shields by azine-aromatic aldehyde reaction  
[NASA-CASE-XMP-08656] c06 N71-11242

Ultraviolet and thermally stable polymer compositions  
[NASA-CASE-ARC-10592-1] c18 N74-21156

Ultraviolet and thermally stable polymer compositions  
[NASA-CASE-ARC-10592-2] c27 N76-32315

**AZO COMPOUNDS**  
Molding process for imidazopyrrolone polymers  
[NASA-CASE-LAR-10547-1] c15 N74-13177

## B

**BACKGROUND NOISE**  
Electronic background suppression field scanning sensor for detecting point source targets  
[NASA-CASE-XGS-05211] c07 N69-39980

**BACKSCATTERING**  
Apparatus for measuring backscatter and transmission characteristics of sample segment of large spherical passive satellites  
[NASA-CASE-XGS-02608] c07 N70-41678

Mossbauer spectrometer radiation detector  
[NASA-CASE-LAR-11155-1] c14 N74-15091

**BACKUPS**  
Flexible backup bar for welding awkwardly shaped structures  
[NASA-CASE-XMP-00722] c15 N70-40204

Reliable electrical element heater using plural wire system and backup power sources  
[NASA-CASE-MPS-21462-1] c09 N74-14935

**BACTERIA**  
Decontamination of petroleum products with honey  
[NASA-CASE-XNP-03835] c06 N71-23499

Portable tester for monitoring bacterial contamination by adenosine triphosphate light reaction  
[NASA-CASE-GSC-10879-1] c14 N72-25413

Enzymatic luminescent bioassay method for determining bacterial levels in urine  
[NASA-CASE-GSC-11092-2] c04 N73-27052

Lyophilized spore dispenser  
[NASA-CASE-LAR-10544-1] c15 N74-13178

Automated single-slide staining device  
[NASA-CASE-LAR-11649-1] c51 N76-13725

Method of detecting and counting bacteria  
[NASA-CASE-GSC-11917-2] c51 N76-29891

**BACTERIOLOGY**  
Detection of bacteria in biological fluids and foods  
[NASA-CASE-GSC-11533-1] c14 N73-13435

Application of luciferase assay for ATP to antimicrobial drug susceptibility testing  
[NASA-CASE-GSC-12039-1] c51 N75-26629

**BAPPLES**  
Light radiation direction indicator with baffle of two parallel grids  
[NASA-CASE-XNP-03930] c14 N69-24331

Light baffle with oblate hemispheroid surface and shading flange  
[NASA-CASE-NPO-10337] c14 N71-15604

Flexible ring slosh damping baffle for spacecraft fuel tank  
[NASA-CASE-LAR-10317-1] c32 N71-16103

Submerged fuel tank baffles to prevent sloshing in liquid propellant rocket flight  
[NASA-CASE-XLA-04605] c32 N71-16106

Floating baffle for tank drain  
[NASA-CASE-KSC-10639] c15 N73-26472

**BAGS**  
Fecal waste disposal container

- [NASA-CASE-XMS-06761] c05 N69-23192
- BALANCE**  
Thermoprotective device for balances  
[NASA-CASE-XAC-00648] c14 N70-40400  
Device for monitoring a change in mass in  
varying gravimetric environments  
[NASA-CASE-MPS-21556-1] c14 N74-26945
- BALANCING**  
Automatic balancing device for use on  
frictionless supported attitude-controlled  
test platforms  
[NASA-CASE-LAR-10774] c10 N71-13545  
Force balanced throttle valve for fuel control  
in rocket engines  
[NASA-CASE-NPO-10808] c15 N71-27432  
Static force balancing system attached to  
lifting body  
[NASA-CASE-LAR-10348-1] c11 N73-12264
- BALL BEARINGS**  
Combination guide and rotary bearing for freely  
moving shaft  
[NASA-CASE-XLA-00013] c15 N71-29136  
Method for reducing mass of ball bearings for  
long life operation at high speed  
[NASA-CASE-LEW-10856-1] c15 N72-22490  
Low mass rolling element bearing assembly  
[NASA-CASE-LEW-11087-1] c15 N73-30458  
Hollow rolling element bearings  
[NASA-CASE-LEW-11087-3] c15 N74-21064  
Drilled ball bearing with a one piece  
anti-tipping cage assembly  
[NASA-CASE-LEW-11925-1] c37 N75-31446
- BALLAST (MASS)**  
Inflatable stabilizing system for use on life  
raft to reduce rocking and preclude capsizing  
[NASA-CASE-MSC-12393-1] c02 N73-26006
- BALLASTS (IMPEDANCES)**  
Apparatus for ballasting high frequency  
transistors  
[NASA-CASE-XGS-05003] c09 N69-24318
- BALLISTICS**  
Fiber modified polyurethane foam for ballistic  
protection  
[NASA-CASE-ARC-10714-1] c27 N76-15310
- BALLOON SOUNDING**  
Apparatus for controlling the temperature of  
balloon-borne equipment  
[NASA-CASE-GSC-11620-1] c14 N74-23039
- BALLOONS**  
Development and characteristics of hot air  
balloon deceleration and recovery system  
[NASA-CASE-XLA-06824-2] c02 N71-11037  
Inflation system for balloon type satellites  
[NASA-CASE-XGS-03351] c31 N71-16081  
System for controlling torque buildup in  
suspension of gondola connected to balloon by  
parachute shroud lines  
[NASA-CASE-GSC-11077-1] c02 N73-13008
- BALLS**  
Two axis flight controller with potentiometer  
control shafts directly coupled to rotatable  
ball members  
[NASA-CASE-XPR-04104] c03 N70-42073
- BANDPASS FILTERS**  
Helical coaxial resonator RF filter  
[NASA-CASE-XGS-02816] c07 N69-24323  
Phase locked demodulator with bandwidth  
switching amplifier circuit  
[NASA-CASE-XNP-01107] c10 N71-28859  
Signal to noise ratio determination circuit  
using bandpass limiter  
[NASA-CASE-GSC-11239-1] c10 N73-25241  
Selective bandpass resonators using bandstop  
resonator pairs for microwave frequency  
operation  
[NASA-CASE-GSC-10990-1] c09 N73-26195  
Dichroic plate --- as bandpass filters  
[NASA-CASE-NPO-13506-1] c35 N76-15435  
Notch filter --- for selective attenuation of a  
narrow band of frequencies using a helical coil  
[NASA-CASE-MPS-23303-1] c33 N76-22462
- BANDWIDTH**  
Improvements in receiver of narrow bandwidth  
television system  
[NASA-CASE-XMS-06740-1] c07 N71-26579  
Self-tuning electronic filter for maintaining  
constant bandwidth and center frequency gain  
[NASA-CASE-ARC-10264-1] c09 N73-20231
- Turnstile and flared cone UHF antenna  
[NASA-CASE-LAR-10970-1] c33 N76-14372
- BARIUM**  
Chemical system for releasing barium to create  
ion clouds in upper atmosphere and  
interplanetary space  
[NASA-CASE-LAR-10670-1] c06 N73-30097
- BARIUM COMPOUNDS**  
Improved cathode containing barium carbonate  
block and heated tungsten screen for electron  
bombardment ion thruster  
[NASA-CASE-XLE-07087] c06 N69-39889
- BARIUM FLUORIDES**  
Production of barium fluoride-calcium fluoride  
composite lubricant for bearings or seals  
[NASA-CASE-XLE-08511-2] c18 N71-16105
- BARIUM ION CLOUDS**  
Rocket having barium release system to create  
ion clouds in the upper atmosphere  
[NASA-CASE-LAR-10670-2] c31 N74-27360
- BARIUM TITANATES**  
Memory device employing semiconductor and  
ferroelectric properties of single crystal  
barium titanate  
[NASA-CASE-ERC-10307] c08 N72-21198
- BARRIER LAYERS**  
High voltage, high current Schottky barrier  
solar cell  
[NASA-CASE-NPO-13482-1] c03 N74-30448
- BARRIERS**  
Short range laser obstacle detector --- for  
surface vehicles using laser diode array  
[NASA-CASE-NPO-11856-1] c16 N74-15145
- BASES (CHEMICAL)**  
Low concentration alkaline solution treatment of  
aluminum with metal phosphate surface coatings  
to improve chemical bonding and reduce coating  
weight  
[NASA-CASE-XLA-01995] c18 N71-23047
- BATTERY CHARGERS**  
Battery charging system with cell to cell  
voltage balance  
[NASA-CASE-XGS-05432] c03 N71-19438  
Alkaline-type coulometer cell for primary charge  
control in secondary battery recharge circuits  
[NASA-CASE-XGS-05434] c03 N71-20491  
Development and characteristics of battery  
charging circuits with coulometer for control  
of available current  
[NASA-CASE-GSC-10487-1] c03 N71-24719
- BAYARD-ALPERT IONIZATION GAGES**  
Describing hot filament type Bayard-Alpert  
ionization gage with ion collector buried or  
removed from grid structure  
[NASA-CASE-XLA-07424] c14 N71-18482
- BEADS**  
Rotary bead dropper and selector for testing  
micrometeorite transducers  
[NASA-CASE-XGS-03304] c09 N71-22988
- BEAM LEADS**  
Integrated circuit package with lead structure  
and method of preparing the same  
[NASA-CASE-MPS-21374-1] c10 N74-12951
- BEAM SPLITTERS**  
Optical range finder using reflective first  
surfaces mirror and transmitting beam splitter  
[NASA-CASE-MSC-12105-1] c14 N72-21409  
Method and apparatus for splitting a beam of  
energy  
[NASA-CASE-GSC-12083-1] c36 N76-15451
- BEAM SWITCHING**  
Using electron beam switching for brushless  
motor commutation  
[NASA-CASE-XGS-01451] c09 N71-10677  
Antenna array at focal plane of reflector with  
coupling network for beam switching  
[NASA-CASE-GSC-10220-1] c07 N71-27233  
Dish antenna having switchable beamwidth ---  
with truncated concave ellipsoid subreflector  
[NASA-CASE-GSC-11760-1] c33 N75-19516  
Single frequency, two feed dish antenna having  
switchable beamwidth  
[NASA-CASE-GSC-11968-1] c32 N76-15329  
Switchable beamwidth monopulse method and system  
[NASA-CASE-GSC-11924-1] c33 N76-27472
- BEAM WAVEGUIDES**  
Laser machining device with dielectric  
functioning as beam waveguide for mechanical  
and medical applications

# SUBJECT INDEX

# BINARY DATA

[NASA-CASE-HQN-10541-2] c15 N71-27135  
Optical communication system with gas filled  
waveguide for laser beam transmission  
[NASA-CASE-HQN-10541-4] c16 N71-27183  
Laser beam projector for continuous, precise  
alignment between target, laser generator, and  
astronomical telescope during tracking  
[NASA-CASE-NPO-11087] c23 N71-29125

**BEAMS (RADIATION)**  
Method and means for recording and  
reconstructing holograms without use of  
reference beam  
[NASA-CASE-ERC-10020] c16 N71-26154  
Method and system for transmitting and  
distributing optical frequency radiation  
[NASA-CASE-HQN-10541-3] c23 N72-23695  
RF beam center location method and apparatus for  
power transmission system  
[NASA-CASE-NPO-13821-1] c44 N76-26692

**BEARING (DIRECTION)**  
Light radiation direction indicator with baffle  
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[NASA-CASE-XLA-00183] c14 N70-40239  
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[NASA-CASE-GSC-10556-1] c31 N71-26537  
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[NASA-CASE-XAR-01547] c05 N69-21473  
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[NASA-CASE-XNP-06914] c15 N71-21489
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- Application techniques for protecting materials  
during salt bath brazing  
[NASA-CASE-XLE-00046] c15 N70-33311
- Joining aluminum to stainless steel by bonding  
aluminum coatings onto titanium coated  
stainless steel and brazing aluminum to  
aluminum/titanium coated steel  
[NASA-CASE-MPS-07369] c15 N71-20443
- Brazing alloy adapted for brazing corrosion  
resistant steel to refractory metals, also for  
brazing refractory metals to other refractory  
metals  
[NASA-CASE-XNP-03063] c17 N71-23365
- Electric resistance spot welding and brazing for  
producing metal bonds with superior mechanical  
and structural characteristics  
[NASA-CASE-LAR-11072-1] c15 N73-20535
- Brazing alloy binder  
[NASA-CASE-XMP-05868] c26 N75-27125
- Brazing alloy composition  
[NASA-CASE-XMP-06053] c26 N75-27126
- Brazing alloy  
[NASA-CASE-XNP-03878] c26 N75-27127
- Method of fluxless brazing and diffusion bonding  
of aluminum containing components  
[NASA-CASE-MSC-14435-1] c37 N76-18455
- BREATHING APPARATUS**
- Three-port transfer valve with one port open  
continuously suitable for manned space flight  
[NASA-CASE-XAC-01158] c15 N71-23051
- Self-contained breathing apparatus  
[NASA-CASE-MSC-14733-1] c54 N76-24900
- BRICKS**
- Development of construction block in form of  
container folded from flat sheet and filled  
with solid material for architectural purposes  
[NASA-CASE-MSC-12233-2] c32 N73-13921
- BRIGHTNESS**
- Modulating and controlling intensity of light  
beam from high temperature source by  
servocontrolled rotating cylinders  
[NASA-CASE-XMS-04300] c09 N71-19479
- BRIGHTNESS DISCRIMINATION**
- Video signal processing system for sampling  
video brightness levels  
[NASA-CASE-NPO-10140] c07 N71-24742
- Automated visual sensitivity tester for  
determining visual field sensitivity and blind  
spot size  
[NASA-CASE-ARC-10329-1] c05 N73-26072

## BRITTLENESS

- Rock sampling --- apparatus for controlling particle size  
[NASA-CASE-XNP-10007-1] c15 N74-23068
- Rock sampling --- method for controlling particle size distribution  
[NASA-CASE-XNP-09755] c15 N74-23069

## BROADBAND

- Broadband chokes and absorbers to reduce spurious radiation patterns of antenna array caused by support structures  
[NASA-CASE-XMS-05303] c07 N69-27462
- Flexible monopole antenna with broad bandwidth and low voltage standing wave ratio  
[NASA-CASE-MS-C-12101] c09 N71-18720
- Broadband frequency discriminator with resistive captive inductive networks  
[NASA-CASE-NPO-10096] c07 N71-24583
- Broadband microwave waveguide window to compensate dielectric material filling  
[NASA-CASE-XNP-08880] c09 N71-24808
- Comb type traveling wave maser amplifier for improved high gain broadband output  
[NASA-CASE-NPO-10548] c16 N71-24831
- Wideband voltage controlled oscillator with high phase stability  
[NASA-CASE-XLA-03893] c10 N71-27271
- Multimode antenna feed system for microwave and broadband communication  
[NASA-CASE-GSC-11046-1] c07 N73-28013

## BROADBAND AMPLIFIERS

- Solid state broadband stable power amplifier  
[NASA-CASE-XNP-10854] c10 N71-26331
- Broadband distribution amplifier with complementary pair transistor output stages  
[NASA-CASE-NPO-10003] c10 N71-26415

## BROADCASTING

- Vehicle locating system utilizing AM broadcasting station carriers  
[NASA-CASE-NPO-13217-1] c32 N75-26194

## BROMINE

- Hydrogen-bromine secondary battery  
[NASA-CASE-NPO-13237-1] c44 N76-18641

## BRUSHES

- Fabrication of sintered impurity semiconductor brushes for electrical energy transfer  
[NASA-CASE-XNP-01016] c26 N71-17818

## BUCKLING

- Miniature vibration isolator utilizing elastic tubing material  
[NASA-CASE-XLA-01019] c15 N70-40156
- Test equipment to prevent buckling of small diameter specimens during compression tests  
[NASA-CASE-LAR-10440-1] c14 N73-32323

## BUFFER STORAGE

- Data handling based on source significance, storage availability, and data received from source  
[NASA-CASE-XNP-04162-1] c08 N70-34675
- Data acquisition and processing system with buffer storage and timing device for magnetic tape recording of PCM data and timing information  
[NASA-CASE-NPO-12107] c08 N71-27255
- Digital to analog converter with parallel input/output memory device  
[NASA-CASE-KSC-10397] c08 N72-25206

## BUILDINGS

- Apparatus and method of assembling building blocks by folding pre-cut flat sheets of material during on-site construction  
[NASA-CASE-MS-C-12233-1] c15 N72-25454

## BULKHEADS

- Liquid propellant tank design with semitoroidal bulkhead  
[NASA-CASE-XNP-01899] c31 N70-41948

## BUOYANCY

- Inflatable radar reflector unit - lightweight, highly reflective to electromagnetic radiation, and adaptable for erection and deployment with minimum effort and time  
[NASA-CASE-XMS-00893] c07 N70-40063

## BURNING RATE

- Pressurized gas injection for burning rate control of solid propellants  
[NASA-CASE-XLE-03494] c27 N71-21819
- Development of apparatus for testing burning rate and flammability of materials  
[NASA-CASE-XMS-09690] c33 N72-25913

## BURNOUT

- Spherical solid propellant rocket engine having abrupt burnout  
[NASA-CASE-XHQ-01897] c28 N70-35381

## BUTT JOINTS

- Channel-type shell construction for rocket engines and related configurations  
[NASA-CASE-XLE-00144] c28 N70-34860
- Segmented back-up bar for butt welding large tubular structures such as rocket booster bodies or tanks  
[NASA-CASE-XNP-00640] c15 N70-39924
- Apparatus for welding sheet material --- butt joints  
[NASA-CASE-XMS-01330] c37 N75-27376

## BUTTERFLY VALVES

- Flexible inflatable seal for butterfly valves  
[NASA-CASE-XLE-00101] c15 N70-33376

## BYPASSES

- Low power drain transistor feedback circuit  
[NASA-CASE-XGS-04999] c09 N69-24317
- Helical coaxial resonator RF filter  
[NASA-CASE-XGS-02816] c07 N69-24323
- Current regulating voltage divider design with load current shunting  
[NASA-CASE-MPS-20935] c09 N71-34212
- Electrical interconnection of unilluminated solar cells in solar battery array  
[NASA-CASE-GSC-10344-1] c03 N72-27053

## C

## CABLE FORCE RECORDERS

- Design and characteristics of device for showing amount of cable payed out from winch and load imposed  
[NASA-CASE-MS-C-12052-1] c15 N71-24599

## CABLES

- Cable guide and restraint device for reefing tubes in uniform manner  
[NASA-CASE-LAR-10129-1] c15 N73-25512
- Deployable flexible tunnel  
[NASA-CASE-MPS-22636-1] c37 N76-22540

## CABLES (ROPES)

- High voltage cable for use in high intensity ionizing radiation fields  
[NASA-CASE-XNP-00738] c09 N70-38201
- Force separation rigid tethering device using cables  
[NASA-CASE-XLA-02332] c32 N71-17609
- Support for flexible conductor cable between drawers or racks holding electronic equipment and cabinet assembly housing drawers or racks  
[NASA-CASE-XNP-07587] c15 N71-18701
- Design and construction of satellite appendage tie-down cord  
[NASA-CASE-XGS-02554] c31 N71-21064
- Quick attach mechanism for moving or stationary wires, ropes, or cables  
[NASA-CASE-XPR-05421] c15 N71-22994
- Flexible cable that can be made rigid  
[NASA-CASE-MS-C-13512-1] c15 N72-22485
- Guide member for stabilizing cable of open shaft elevator  
[NASA-CASE-KSC-10513] c15 N72-25453
- Reefing system  
[NASA-CASE-LAR-10129-2] c15 N74-20063
- Emergency descent device  
[NASA-CASE-MPS-23074-1] c54 N76-13770

## CADMIUM SULFIDES

- High field CdS detector for infrared radiation  
[NASA-CASE-LAR-11027-1] c14 N74-18088

## CALCIUM

- Ultrasonic bone densitometer  
[NASA-CASE-MPS-20994-1] c35 N75-12271

## CALCIUM FLUORIDES

- Bonded solid lubricant coatings of calcium fluoride and binder for high temperature stability  
[NASA-CASE-XMS-00259] c18 N70-36400
- Production of barium fluoride-calcium fluoride composite lubricant for bearings or seals  
[NASA-CASE-XLE-08511-2] c18 N71-16105

## CALCIUM PHOSPHATES

- Process for preparing calcium phosphate salts for tooth repair  
[NASA-CASE-ERC-10338] c04 N72-33072

## CALCULATORS

- Sun angle calculator

- [NASA-CASE-MSC-12617-1] c35 N76-29552
- CALIBRATING**
- Development and characteristics of self-calibrating displacement transducer for measuring magnitude and frequency of displacement of bodies  
[NASA-CASE-XLA-00781] c09 N71-22999
- Combination pressure transducer-calibrator assembly for measuring fluid  
[NASA-CASE-XNP-01660] c14 N71-23036
- Control system for pressure balance device used in calibrating pressure gages  
[NASA-CASE-XNP-04134] c14 N71-23755
- Phonocardiogram simulator producing electrical voltage waves to control amplitude and duration between simulated sounds  
[NASA-CASE-XKS-10804] c05 N71-24606
- Calibrator for measuring and modulating or demodulating laser outputs  
[NASA-CASE-XLA-03410] c16 N71-25914
- Plastic sphere for radar tracking and calibration  
[NASA-CASE-XLA-11154] c07 N72-21117
- Calibration of vacuum gauges for measuring total and partial pressures in ultrahigh vacuum region  
[NASA-CASE-XGS-07752] c14 N73-30390
- System for calibrating pressure transducer  
[NASA-CASE-LAR-10910-1] c14 N74-13132
- In situ transfer standard for ultrahigh vacuum gage calibration  
[NASA-CASE-LAR-10862-1] c14 N74-15092
- Ergometer calibrator --- for any ergometer utilizing rotating shaft  
[NASA-CASE-MPS-21045-1] c35 N75-15932
- Ultrasonic calibration device --- for producing changes in acoustic attenuation and phase velocity  
[NASA-CASE-LAR-11435-1] c35 N76-15432
- High temperature strain gage calibration fixture  
[NASA-CASE-LAR-11500-1] c35 N76-24523
- CALORIMETERS**
- Development and characteristics of calorimeter with integral heat sink for maintenance of constant temperature  
[NASA-CASE-XNP-04208] c33 N71-29051
- Heat flow calorimeter --- measures output of Ni-Cd batteries  
[NASA-CASE-GSC-11434-1] c14 N74-27859
- CAMERA SHUTTERS**
- Electrically operated rotary shutter for television camera aboard spacecraft  
[NASA-CASE-XNP-00637] c14 N70-40273
- Magnetically opened diaphragm design with camera shutter and expansion tube applications  
[NASA-CASE-XLA-03660] c15 N71-21060
- Development and characteristics of cyclically operable, optical shutter for use as focal plane shutter for transmitting single radiation pulses  
[NASA-CASE-NPO-10758] c14 N73-14427
- Rotary solenoid shutter drive assembly and rotary inertia damper and stop plate assembly --- for use with cameras mounted in satellites  
[NASA-CASE-GSC-11560-1] c09 N74-20861
- CAMERAS**
- Mechanism for measuring nanosecond time differences between luminous events using streak camera  
[NASA-CASE-XLA-01987] c23 N71-23976
- Camera adapter design for image magnification including lens and illuminator  
[NASA-CASE-XNP-03844-1] c14 N71-26474
- Longitudinal film gate and lock mechanism for securing film in motion picture cameras under vibration and high acceleration loads  
[NASA-CASE-LAR-10686] c14 N71-28935
- Design and characteristics of laser camera system with diffusion filter of small particles with average diameter larger than wavelength of laser light  
[NASA-CASE-NPO-10417] c16 N71-33410
- Optical scanner with linear housing and rotating camera  
[NASA-CASE-NPO-11002] c14 N72-22441
- Apparatus for on-film optical recording of camera lens aperture and focus setting  
[NASA-CASE-MSC-12363-1] c14 N73-26431
- Mechanical exposure interlock device for preventing film overexposure in oscilloscope camera
- [NASA-CASE-LAR-10319-1] c14 N73-32322
- Real time moving scene holographic camera system  
[NASA-CASE-MPS-21087-1] c14 N74-17153
- Automatic focus control for facsimile cameras  
[NASA-CASE-LAR-11213-1] c35 N75-15014
- Spectrometer integrated with a facsimile camera  
[NASA-CASE-LAR-11207-1] c35 N75-19613
- Real time, large volume, moving scene holographic camera system  
[NASA-CASE-MPS-22537-1] c35 N75-27328
- Holographic motion picture camera with Doppler shift compensation  
[NASA-CASE-MPS-22517-1] c35 N76-18402
- Camera arrangement --- for satellite scanning of earth or sky  
[NASA-CASE-GSC-12032-2] c35 N76-19408
- CANARD CONFIGURATIONS**
- Thrust and attitude control apparatus using jet nozzle in movable canard surface or fin configuration  
[NASA-CASE-XLE-03583] c31 N71-17629
- CANCER**
- Liquid-cooled brassiere  
[NASA-CASE-ARC-11007-1] c52 N76-18782
- A cervix-to-rectum measuring device in a radiation applicator for use in the treatment of cervical cancer  
[NASA-CASE-GSC-12081-1] c52 N76-22890
- CANOPIES**
- Transparent fire resistant polymeric structures  
[NASA-CASE-ARC-10813-1] c27 N76-16230
- CANS**
- Design and characteristics of device for closing canisters under high vacuum conditions  
[NASA-CASE-XLA-01446] c15 N71-21528
- Extrusion can for extruding ceramics under heat and pressure  
[NASA-CASE-NPO-10812] c15 N73-13464
- CANTILEVER BEAMS**
- Pneumatic cantilever beams and platform for space erectable structure  
[NASA-CASE-XLA-01731] c32 N71-21045
- CANTILEVER MEMBERS**
- Deployable cantilever support for deploying solar cell arrays aboard spacecraft and reducing transient loading  
[NASA-CASE-NPO-10883] c31 N72-22874
- CAPACITANCE**
- Capacitance measuring device for determining flare accuracy on tapered tubes  
[NASA-CASE-XKS-03495] c14 N69-39785
- Device for measuring two orthogonal components of force with gallium flotation of measuring target for use in vacuum environments  
[NASA-CASE-XAC-04885] c14 N71-23790
- Thin film capacitive bolometer and capacitance temperature interchange sensor  
[NASA-CASE-NPO-10607] c09 N71-27232
- Capacitive tank gaging device for monitoring one constituent of two phase fluid by sensing dielectric constant  
[NASA-CASE-MPS-21629] c14 N72-22442
- Adjustable frequency response microphone  
[NASA-CASE-LAR-11170-1] c07 N74-12843
- Capacitance multiplier and filter synthesizing network  
[NASA-CASE-NPO-11948-1] c10 N74-32712
- CAPACITANCE SWITCHES**
- Electric discharge apparatus for electrohydraulic explosive forming  
[NASA-CASE-XNP-00375] c15 N70-34249
- Extra-long monostable multivibrator employing bistable semiconductor switch to allow charging of timing circuit  
[NASA-CASE-XGS-00381] c09 N70-34819
- Feedback integrating circuit with grounded capacitor for signal processing  
[NASA-CASE-XAC-10607] c10 N71-23669
- CAPACITORS**
- Temperature sensitive capacitor device for detecting very low intensity infrared radiation  
[NASA-CASE-XNP-09750] c14 N69-39937
- Energy source with tantalum capacitors in parallel and miniature silver oxide button cells for initiating pyrotechnic devices on spacecraft and rocket vehicles  
[NASA-CASE-LAR-10367-1] c03 N70-26817
- Electrical power system for space flight vehicles operating over extended periods

- [NASA-CASE-XMP-00517] c03 N70-34157  
Capacitor for measuring density of compressible fluid in liquid, gas, or liquid and gas phases  
[NASA-CASE-XLE-00143] c14 N70-36618  
Capacitor sandwich structure containing metal sheets of known thickness for counting penetration rates of meteoroids  
[NASA-CASE-XLE-01246] c14 N71-10797  
Capacitor fabrication by solidifying mixture of ferromagnetic metal particles, nonferromagnetic particles, and dielectric material  
[NASA-CASE-LEW-10364-1] c09 N71-13522  
Mechanism for measuring nanosecond time differences between luminous events using streak camera  
[NASA-CASE-XLA-01987] c23 N71-23976  
Circuit for monitoring power supply by ripple current indication  
[NASA-CASE-KSC-10162] c09 N72-11225  
Thermoelectric radiometer using polymer film as capacitor  
[NASA-CASE-ARC-10138-1] c14 N72-24477  
Material compositions and processes for developing dielectric thick films used in microcircuit capacitors  
[NASA-CASE-LAR-10294-1] c26 N72-28762  
Micrometeoroid analyzer using arrays of interconnected capacitors and ion detector  
[NASA-CASE-ARC-10443-1] c14 N73-20477  
Insulated electrocardiographic electrodes --- without paste electrolyte  
[NASA-CASE-MSC-14339-1] c05 N75-24716  
High temperature beryllium oxide capacitor  
[NASA-CASE-LEW-11938-1] c33 N76-15373  
Mechanical capacitor  
[NASA-CASE-GSC-12030-1] c44 N76-30652  
**CAPILLARY FLOW**  
Capillary radiator for carrying heat transfer liquid in planetary spacecraft structures  
[NASA-CASE-XLE-03307] c33 N71-14035  
Lubrication for bearings by capillary action from oil reservoir of porous material  
[NASA-CASE-XNP-03972] c15 N71-23048  
Soldering device particularly suited to making high quality wiring joints for aerospace engineering utilizing capillary attraction to regulate flow of solder  
[NASA-CASE-XLA-08911] c15 N71-27214  
Capillary flow weld-bonding  
[NASA-CASE-LAR-11726-1] c37 N76-27568  
**CAPILLARY TUBES**  
Tubular flow restrictor for gas flow control in pipeline  
[NASA-CASE-NPO-10117] c15 N71-15608  
Development of liquid separating system using capillary device connected to flexible bladder storage chamber  
[NASA-CASE-XMS-13052] c14 N71-20427  
Interrupter switching device utilizing electrodes and mercury filled capillary tubes in which current flow vaporizes mercury as circuit breaker  
[NASA-CASE-XNP-02251] c12 N71-20896  
Diffused waveguiding capillary tube with distributed feedback for a gas laser  
[NASA-CASE-NPO-13544-1] c36 N76-18428  
**CARBAZOLES**  
Method of producing output voltage from photovoltaic cell using poly-N-vinyl carbazole complexed with iodine  
[NASA-CASE-NPO-10373] c03 N71-18698  
**CARBOHYDRATES**  
Decantation of petroleum products with honey  
[NASA-CASE-XNP-03835] c06 N71-23499  
**CARBON ARCS**  
Water cooled contactors for holding rotating carbon arc anode  
[NASA-CASE-XMS-03700] c15 N69-24266  
**CARBON COMPOUNDS**  
Vapor deposited laminated nitride-silicon coating for corrosion prevention of carbonaceous surfaces  
[NASA-CASE-XLA-00284] c15 N71-16075  
**CARBON DIOXIDE**  
Carbon dioxide purge systems to prevent condensation in spaces between cryogenic fuel tanks and hypersonic vehicle skin  
[NASA-CASE-XLA-01967] c31 N70-42015  
Fast response miniature carbon dioxide detector with no moving parts for measuring concentration in any atmosphere  
[NASA-CASE-MSC-13332-1] c14 N72-21408  
Regenerable device for scrubbing breathable air of CO<sub>2</sub> and moisture without special heat exchanger equipment --- for spacecraft cabin atmospheres  
[NASA-CASE-MSC-14770-1] c54 N76-26868  
Regenerable device for scrubbing breathable air of CO<sub>2</sub> and moisture without special heat exchanger equipment --- spacecraft cabin atmospheres  
[NASA-CASE-MSC-14771-1] c54 N76-26869  
**CARBON DIOXIDE LASERS**  
Repetitively pulsed wavelength selective carbon dioxide laser  
[NASA-CASE-ERC-10178] c16 N71-24832  
Performance of ac power supply developed for CO<sub>2</sub> laser system  
[NASA-CASE-GSC-11222-1] c16 N73-32391  
Stark-effect modulation of CO<sub>2</sub> laser with NH<sub>2</sub>D  
[NASA-CASE-NPO-11945-1] c36 N76-18427  
**CARBON DIOXIDE REMOVAL**  
Catalyst cartridge for carbon dioxide reduction unit  
[NASA-CASE-LAR-10551-1] c06 N74-12813  
**CARBON MONOXIDE**  
Carbon monoxide monitor --- using real time operation  
[NASA-CASE-MPS-22060-1] c35 N75-29380  
**CARBONATES**  
Chemical and physical properties of synthetic polyurethane polymer prepared by reacting hydroxy carbonate with organic diisocyanate  
[NASA-CASE-MPS-10512] c06 N73-30099  
**CARBOXYL GROUP**  
Carboxyl terminated polyester prepolymers and foams produced from prepolymers and materials  
[NASA-CASE-NPO-10596] c06 N71-25929  
**CARBOXYLIC ACIDS**  
Stable polyimide synthesis from mixtures of monomeric diamines and polycarboxylic acid esters  
[NASA-CASE-LEW-11325-1] c06 N73-27980  
Fluorinated esters of polycarboxylic acid and lubricating compositions for use at extreme temperature  
[NASA-CASE-MPS-21040-1] c06 N73-30098  
**CARCINOGENS**  
Spectrophotofluorometer with 3-dimensional display to identify fluorescence spectra of carcinogenic and noncarcinogenic hydrocarbons  
[NASA-CASE-XGS-01231] c14 N70-41676  
**CARDIOGRAPHY**  
Digital cardiometer incorporating circuit for measuring heartbeat rate of subject over predetermined portion of one minute also converting rate to beats per minute  
[NASA-CASE-XMS-02399] c05 N71-22896  
Reference apparatus for medical ultrasonic transducer  
[NASA-CASE-ARC-10753-1] c54 N75-27760  
**CARDIOLOGY**  
Development of instantaneous reading tachometer for measuring electrocardiogram signal rate  
[NASA-CASE-MPS-20418] c14 N73-24473  
Myocardium wall thickness transducer and measuring method  
[NASA-CASE-NPO-13644-1] c52 N76-29895  
**CARDIOTACHOMETERS**  
Digital computing cardiometer  
[NASA-CASE-MPS-20284-1] c05 N74-12778  
**CARDIOVASCULAR SYSTEM**  
Ear oximeter for monitoring blood oxygenation and pressure, pulse rate, and pressure pulse curve, using dc and ac amplifiers  
[NASA-CASE-XAC-05422] c04 N71-23185  
Catheter tip force transducer for cardiovascular research  
[NASA-CASE-NPO-13643-1] c52 N76-29896  
**CARRIER FREQUENCIES**  
Demodulator for simultaneous demodulation of two modulating ac signal carriers close in frequency  
[NASA-CASE-XMP-01160] c07 N71-11298  
Automatic carrier acquisition system for phase locked loop receiver  
[NASA-CASE-NPO-11628-1] c07 N73-30113

- Demodulator for carrier transducers  
[NASA-CASE-NUC-10107-1] c09 N74-17930
- Decision feedback loop for tracking a polyphase modulated carrier  
[NASA-CASE-NPO-13103-1] c07 N74-20811
- Linear phase demodulator  
[NASA-CASE-GSC-12018-1] c17 N76-13169
- CARRIER WAVES**
- Variable frequency subcarrier oscillator with temperature compensation  
[NASA-CASE-XNP-03916] c09 N71-28810
- Modulator for tone and binary signals --- phase of modulation of tone and binary signals on carrier waves in communication systems  
[NASA-CASE-GSC-11743-1] c32 N75-24981
- CARRIERS**
- Sealed storage container for channel carriers with mounted miniature electronic components  
[NASA-CASE-MPS-20075] c09 N71-26133
- Apparatus for conducting flow electrophoresis in the substantial absence of gravity  
[NASA-CASE-MPS-21394-1] c12 N74-27744
- CARTESIAN COORDINATES**
- Design and development of random function tracer for obtaining coordinates of points on contour maps  
[NASA-CASE-XLA-01401] c15 N71-21179
- CARTRIDGES**
- Tape cartridge with high capacity storage of endless-loop magnetic tape  
[NASA-CASE-IGS-00769] c14 N70-41647
- Endless loop tape transport mechanism for driving and tensioning recording medium in magnetic tape recorder  
[NASA-CASE-IGS-01223] c07 N71-10609
- Catalyst cartridge for carbon dioxide reduction unit  
[NASA-CASE-LAR-10551-1] c06 N74-12813
- CASCADE CONTROL**
- Reversible ring counter using cascaded single silicon controlled rectifier stages  
[NASA-CASE-XGS-01473] c09 N71-10673
- Synchronous dc direct-drive system comprising multiple-loop hybrid control system controlling load directly connected to actuator  
[NASA-CASE-GSC-10065-1] c10 N71-27136
- Multiloop RC active filter network with low parameter sensitivity and low amplifier gain  
[NASA-CASE-ARC-10192] c09 N72-21245
- CASES (CONTAINERS)**
- Nonmagnetic hermetically sealed battery case made of epoxy resin and woven glass tape for use with electrochemical cells in spacecraft  
[NASA-CASE-XGS-00886] c03 N71-11053
- Protected isotope heat source --- for atmospheric reentry protection and heat transmission to spacecraft  
[NASA-CASE-LBW-11227-1] c73 N75-30876
- CASSEGRAIN ANTENNAS**
- Cassegrain antenna subreflector flange for suppressing ground noise and increasing antenna transmitting efficiency  
[NASA-CASE-XNP-00683] c09 N70-35425
- Design and operation of multi-feed cone Cassegrain antenna  
[NASA-CASE-NPO-10539] c07 N71-11285
- Synchronous detection system for detecting weak radio astronomical signals  
[NASA-CASE-XNP-09832] c30 N71-23723
- Dual frequency feed systems for Cassegrainian antennas  
[NASA-CASE-NPO-13091-1] c09 N73-12214
- Low loss dichroic plate  
[NASA-CASE-NPO-13171-1] c07 N74-11000
- CASTING**
- Hydraulic apparatus for casting and molding of liquid polymers  
[NASA-CASE-XNP-07659] c06 N71-22975
- CASTINGS**
- Method of making an apertured casting --- using duplicate mold  
[NASA-CASE-LEW-11169-1] c37 N76-23570
- CATALYSIS**
- Unit for generating thrust from catalytic decomposition of hydrogen peroxide, for high altitude aircraft or spacecraft reaction control  
[NASA-CASE-XMS-00583] c28 N70-38504
- Photon excited catalysis  
[NASA-CASE-NPO-13566-1] c25 N76-17216
- CATALYSTS**
- Catalyst for increased growth of boron carbide crystal whiskers  
[NASA-CASE-XHQ-03903] c15 N69-21922
- Catalyst bed element removing tool  
[NASA-CASE-XPR-00811] c15 N70-36901
- Catalyst bed ignition system for hydrazine propellants  
[NASA-CASE-XNP-00876] c28 N70-41311
- Development of device for detecting hydrogen in ambient environments  
[NASA-CASE-MPS-11537] c14 N71-20442
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[NASA-CASE-NPO-11342] c09 N72-25248
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- Circuitry for developing autocorrelation function continuously within signal receiving period  
[NASA-CASE-XNP-00746] c07 N71-21476
- Single electrical circuit component combining diode, fuse, and blown indicator with elongated tube of heat resistant transparent material  
[NASA-CASE-XKS-03381] c09 N71-22796
- Design and development of buck-boost voltage regulator circuit with additive or subtractive alternating current impressed on variable direct current source voltage  
[NASA-CASE-GSC-10735-1] c10 N71-26085
- Design of active RC network capable of operating at high Q values with reduced sensitivity to gain amplification and number of passive components  
[NASA-CASE-ARC-10042-2] c10 N72-11256
- Precision surface cutter for screen circuit negatives and other microcircuits  
[NASA-CASE-XLA-09843] c15 N72-27485
- Self-regulating proportionally controlled heating apparatus and technique  
[NASA-CASE-GSC-11752-1] c77 N75-20140
- Symmetrical odd-modulus frequency divider  
[NASA-CASE-NPO-13426-1] c33 N75-31330
- Trielectrode capacitive pressure transducer  
[NASA-CASE-ARC-10711-2] c33 N76-21390
- CIRCUIT PROTECTION**
- Use of silicon controlled rectifier shorting circuit to protect thermoelectric generator source from thermal destruction  
[NASA-CASE-XGS-04808] c03 N69-25146
- Spark gap type protective circuit for fast sensing and removal of overvoltage conditions  
[NASA-CASE-XAC-08981] c09 N69-39897
- Development of in-line fuse device for protection of electric circuits from excessive currents and voltages  
[NASA-CASE-MSC-12135-1] c09 N71-12526
- Overcurrent protecting circuit for push-pull transistor amplifiers  
[NASA-CASE-MSC-12033-1] c09 N71-13531
- Solder coating process for printed copper circuit protection  
[NASA-CASE-XMP-01599] c09 N71-20705
- Power supply with overload protection for series stage transistor  
[NASA-CASE-XMS-00913] c10 N71-23543
- Selective plating of etched circuits without removing previous plating  
[NASA-CASE-XGS-03120] c15 N71-24047
- Circuit design for failure sensing and protecting low voltage electric generator and power transmission networks  
[NASA-CASE-GSC-10114-1] c10 N71-27366
- Sensing circuit for instantaneous reaction to power overloads  
[NASA-CASE-GSC-10667-1] c10 N71-33129
- Current protection equipment for saturable core transformers  
[NASA-CASE-ERC-10075-2] c09 N72-22196
- Development of process for forming insulating layer between two electrical conductor or semiconductor materials  
[NASA-CASE-LEW-10489-1] c15 N72-25447
- Phase protection system for ac power lines  
[NASA-CASE-MSC-17832-1] c10 N74-14956
- Overvoltage protection network  
[NASA-CASE-ARC-10197-1] c09 N74-17929
- Shock absorbing mount for electrical components  
[NASA-CASE-NPO-13253-1] c37 N75-18573
- Multiple circuit protector device  
[NASA-CASE-XMS-02744] c33 N75-27249
- Multi-cell battery protection system  
[NASA-CASE-LEW-12039-1] c44 N76-23713
- CIRCUITS**
- Distribution of currents to circuits using electrical adaptor  
[NASA-CASE-XLA-01288] c09 N69-21470
- Nondestructive interrogating and state changing circuit for binary magnetic storage elements  
[NASA-CASE-XGS-00174] c08 N70-34743
- Electronic circuit system for controlling electric motor speed  
[NASA-CASE-XMP-01129] c09 N70-38712
- Starting circuit design for initiating and maintaining arcs in vapor lamps  
[NASA-CASE-XNP-01058] c09 N71-12540
- Voltage drift compensation circuit for analog-to-digital converter  
[NASA-CASE-XNP-04780] c08 N71-19687
- High voltage divider system for attenuating high voltages to convenient levels suitable for introduction to measuring circuits  
[NASA-CASE-XLE-02008] c09 N71-21583
- Negation of magnetic fields produced by thin waferlike circuit elements in space vehicles  
[NASA-CASE-XGS-03390] c03 N71-23187
- Circuits for controlling reversible dc motor  
[NASA-CASE-XNP-07477] c09 N71-26092
- Device for rapid adjustment and maintenance of temperature in electronic components  
[NASA-CASE-XNP-02792] c14 N71-28958
- Pulse generating circuit for operation at very high duty cycles and repetition rates  
[NASA-CASE-XNP-00745] c10 N71-28960
- Development of electric circuit for production of different pulse width signals  
[NASA-CASE-XLA-07788] c09 N71-29139
- Sensing circuit for instantaneous reaction to power overloads  
[NASA-CASE-GSC-10667-1] c10 N71-33129
- Pulsed excitation voltage circuit for strain gage bridge transducers  
[NASA-CASE-PRC-10036] c09 N72-22200
- Development of thermal to electric power conversion system using solid state switches of electrical currents to load for Seebeck effect compensation  
[NASA-CASE-NPO-11388] c03 N72-23048
- Inductive-capacitive loops as load insensitive power converters  
[NASA-CASE-ERC-10268] c09 N72-25252
- Fail-safe multiple transformer circuit configuration  
[NASA-CASE-NPO-11078] c09 N72-25262
- Precision surface cutter for screen circuit negatives and other microcircuits  
[NASA-CASE-XLA-09843] c15 N72-27485
- Bridge-type gain control circuit  
[NASA-CASE-GSC-10786-1] c10 N72-28241
- Active tuned circuits for microelectronic construction  
[NASA-CASE-GSC-11340-1] c10 N72-33230
- Thermochromic compositions for detecting heat levels in electronic circuits and devices  
[NASA-CASE-NPO-10764-1] c14 N73-14428
- Electrodeless lamp circuit driven by induction  
[NASA-CASE-MPS-21214-1] c09 N73-30181
- Circuit for detecting initial systole and diastolic notch --- for monitoring arterial pressure  
[NASA-CASE-LEW-11581-1] c54 N75-13531
- Inrush current limiter --- control circuit  
[NASA-CASE-GSC-11789-1] c33 N75-16748
- Peak holding circuit for extremely narrow pulses  
[NASA-CASE-MSC-14129-1] c33 N75-18479
- High voltage distributor  
[NASA-CASE-GSC-11849-1] c33 N76-16332
- CIRCULAR CONES**
- Optical apparatus for visual detection of roundness and regularity of cone surfaces  
[NASA-CASE-XMP-00462] c14 N70-34298
- CIRCULAR CYLINDERS**
- Modulating and controlling intensity of light beam from high temperature source by

- servocontrolled rotating cylinders  
[NASA-CASE-XNS-04300] c09 N71-19479
- CIRCULAR POLARIZATION**  
Left and right hand circular electromagnetic polarization excitation by phase shifter and hybrid networks  
[NASA-CASE-GSC-10021-1] c09 N71-24595  
Planar array circularly polarized antenna with wall slot excitation  
[NASA-CASE-NPO-10301] c07 N72-11148  
Circularly polarized antenna with linearly polarized pair of elements  
[NASA-CASE-ERC-10214] c09 N72-31235
- CIRCULAR TUBES**  
Evacuated displacement compression molding  
[NASA-CASE-LAR-10782-1] c15 N74-14133
- CIRCULATORS (PHASE SHIFT CIRCUITS)**  
Development of electromagnetic wave transmission line circulator and application to parametric amplifier circuits  
[NASA-CASE-XNP-02140] c09 N71-23097
- CLAMPING CIRCUITS**  
Clamped amplifier circuit for horizon scanner enabling amplification and accurate measurement of specified parameters  
[NASA-CASE-IGS-01784] c10 N71-20782
- CLAMPS**  
Portable device for aligning surfaces of two adjacent wall or sheet sections for joining at point of junction  
[NASA-CASE-XNP-01452] c15 N70-41371  
Hydraulic clamping of sheet stock specimens  
[NASA-CASE-XLA-05100] c15 N71-17696  
Inertial component clamping assembly design for spacecraft guidance and control system mounting  
[NASA-CASE-XNS-02184] c15 N71-20813  
Design and development of module joint clamping device for application to solar array construction  
[NASA-CASE-XNP-02341] c15 N71-21531  
Quick attach mechanism for moving or stationary wires, ropes, or cables  
[NASA-CASE-XPR-05421] c15 N71-22994
- CLAYS**  
White paint production by heating impure aluminum silicate clay having low solar absorbance  
[NASA-CASE-XNP-02139] c18 N71-24184
- CLEAN ROOMS**  
Environmentally controlled suit for working in sterile chamber  
[NASA-CASE-LAR-10076-1] c05 N73-20137
- CLEANERS**  
Device for back purging thrust engines  
[NASA-CASE-XNS-04826] c28 N71-28849  
Noncontaminating swab with absorbent end covered with netted envelope to prevent egress of absorbent material  
[NASA-CASE-MPS-18100] c15 N72-11390
- CLEANING**  
Device for removing plastic dust cover from digital computer disk packs for inspection and cleaning  
[NASA-CASE-LAR-10590-1] c15 N70-26819
- CLEAR AIR TURBULENCE**  
Development of radiometric sensor to warn aircraft pilots of region of clear air turbulence along flight path  
[NASA-CASE-ERC-10081] c14 N72-28437  
Clear air turbulence detector  
[NASA-CASE-MPS-21244-1] c36 N75-15028
- CLIMBING FLIGHT**  
Aircraft indicator for pilot control of takeoff roll, climbout path and verticle flight path in poor visibility conditions  
[NASA-CASE-XLA-00487] c14 N70-40157
- CLINICAL MEDICINE**  
Process for preparing calcium phosphate salts for tooth repair  
[NASA-CASE-ERC-10338] c04 N72-33072  
Measurement of gas production of microorganisms --- using pressure sensors  
[NASA-CASE-LAR-11326-1] c35 N75-33368  
Production of I-123  
[NASA-CASE-LEW-11390-3] c25 N76-29379
- CLOCKS**  
Time synchronization system for synchronizing clocks at remote locations with master clock using moon reflected coded signals  
[NASA-CASE-NPO-10143] c10 N71-26326  
Circuit for measuring wide range of pulse rates by utilizing high capacity counter  
[NASA-CASE-XNP-06234] c10 N71-27137  
Fault tolerant clock apparatus utilizing a controlled minority of clock elements  
[NASA-CASE-MSC-12531-1] c35 N75-30504  
Clock setter  
[NASA-CASE-LAR-11458-1] c35 N76-16392
- CLOSED CIRCUIT TELEVISION**  
Spacecraft docking and alignment system --- using television camera system  
[NASA-CASE-MSC-12559-1] c18 N76-14186
- CLOSED CYCLES**  
Closed loop radio communication ranging system to determine distance between moving airborne vehicle and fixed ground station  
[NASA-CASE-XNP-01501] c21 N70-41930  
Digital phase-locked loop  
[NASA-CASE-GSC-11623-1] c33 N75-25040  
Lead-oxygen dc power supply system having a closed loop oxygen and water system  
[NASA-CASE-MPS-23059-1] c44 N76-27664
- CLOSED ECOLOGICAL SYSTEMS**  
Potable water reclamation from human wastes in zero-G environment  
[NASA-CASE-XLA-03213] c05 N71-11207  
Spacecraft with artificial gravity and earthlike atmosphere  
[NASA-CASE-LEW-11101-1] c31 N73-32750
- CLOSURES**  
Design and characteristics of device for closing canisters under high vacuum conditions  
[NASA-CASE-XLA-01446] c15 N71-21528
- CLOUD CHAMBERS**  
Heat transfer device  
[NASA-CASE-MPS-22938-1] c34 N76-18374
- CLOUDS (METEOROLOGY)**  
Development and characteristics of apparatus for measuring intensity of electric field in atmosphere  
[NASA-CASE-KSC-10730-1] c14 N73-32318  
Electric field measuring and display system --- for cloud formations  
[NASA-CASE-KSC-10731-1] c14 N74-27862
- COALESCING**  
Improved bimetallic junctions  
[NASA-CASE-LEW-11573-1] c26 N76-13267
- COATING**  
Solder coating process for printed copper circuit protection  
[NASA-CASE-XNP-01599] c09 N71-20705  
High thermal emittance black surface coatings and process for applying to metal and metal alloy surfaces used in radiative cooling of spacecraft  
[NASA-CASE-XLA-06199] c15 N71-24875
- COATINGS**  
Bonded solid lubricant coatings of calcium fluoride and binder for high temperature stability  
[NASA-CASE-XNS-00259] c18 N70-36400  
Selective coating for solar panels --- energy policy  
[NASA-CASE-LEW-12159-1] c44 N76-15603
- COAXIAL CABLES**  
Design and development of device for cooling inner conductor of coaxial cable  
[NASA-CASE-XNP-09775] c09 N71-20445  
Design and development of electric connectors for rigid and semirigid coaxial cables  
[NASA-CASE-XNP-04732] c09 N71-20851  
Transducer circuit design with single coaxial cable for input and output connections including incorporation into miniaturized catheter transducer  
[NASA-CASE-ARC-10132-1] c09 N71-24597  
Collapsible antenna boom and coaxial transmission line having inflatable inner tube  
[NASA-CASE-MPS-20068] c07 N71-27191  
Vibration isolation system, using coaxial helical compression springs  
[NASA-CASE-NPO-11012] c15 N72-11391  
Development and characteristics of hermetically sealed coaxial package for containing microwave semiconductor components  
[NASA-CASE-GSC-10791-1] c15 N73-14469  
System for stabilizing cable phase delay utilizing a coaxial cable under pressure

- [NASA-CASE-NPO-13138-1] c09 N74-17927  
Refrigerated coaxial coupling --- for microwave equipment
- [NASA-CASE-NPO-13504-1] c33 N75-30430  
**COAXIAL PLASMA ACCELERATORS**  
Self-energized plasma compressor  
[NASA-CASE-NPS-22145-2] c75 N76-17951
- COBALT ALLOYS**  
High strength, corrosion resistant cobalt-based alloys for aerospace structures  
[NASA-CASE-XLE-00726] c17 N71-15644  
High temperature cobalt-base alloy resistant to corrosion by liquid metals and to sublimation in vacuum environment  
[NASA-CASE-XLE-02991] c17 N71-16025  
High temperature ferromagnetic cobalt-base alloy for electrical power generating equipment  
[NASA-CASE-XLE-02629] c17 N71-23248  
Cobalt-tungsten alloys with superior strength at elevated temperatures  
[NASA-CASE-LEW-10436-1] c17 N73-32415
- COCKPIT SIMULATORS**  
Controlled visibility device for simulating poor visibility conditions in training pilots in instrument landing and flight procedures  
[NASA-CASE-XPR-04147] c11 N71-10748
- CODERS**  
Design and development of encoder/decoder system to generate binary code which is function of outputs of plurality of bistable elements  
[NASA-CASE-NPO-10342] c10 N71-33407  
Biorthogonal encoder with modular design  
[NASA-CASE-NPO-10629] c08 N72-18184  
Method and apparatus for decoding compatible convolutional codes  
[NASA-CASE-MSC-14070-1] c07 N74-32598  
Capacitive shaft encoder  
[NASA-CASE-ARC-10897-1] c35 N76-12338  
Digital plus analog output encoder  
[NASA-CASE-GSC-12115-1] c62 N76-31946
- CODING**  
Description of error correcting methods for use with digital data computers and apparatus for encoding and decoding digital data  
[NASA-CASE-XNP-02748] c08 N71-22749  
Apparatus and digital technique for coding rate data  
[NASA-CASE-LAR-10128-1] c08 N73-20217  
Space communication system for compressed data with a concatenated Reed Solomon-Viterbi coding channel  
[NASA-CASE-NPO-13545-1] c32 N75-26207  
Binary concatenated coding system  
[NASA-CASE-MSC-14082-1] c60 N76-23850
- CORREFFICIENT OF FRICTION**  
Static coefficient test method and apparatus  
[NASA-CASE-GSC-11893-1] c35 N76-31489
- COENZYMES**  
Bioassay of flavin coenzymes  
[NASA-CASE-GSC-10565-1] c06 N72-25149
- COHERENT ELECTROMAGNETIC RADIATION**  
Design of folded traveling wave maser structure  
[NASA-CASE-XNP-05219] c16 N71-15550  
Development of focused image holography with extended sources  
[NASA-CASE-ERC-10019] c16 N71-15551
- COHERENT LIGHT**  
Hybrid holographic system using reference, transmitted, and reflected beams simultaneously  
[NASA-CASE-MPS-20074] c16 N71-15565  
Development of apparatus for amplitude modulation of diode laser by periodic discharge of direct current power supply  
[NASA-CASE-INS-04269] c16 N71-22895  
Coherent light beam device and method for measuring gas density in vacuum chambers  
[NASA-CASE-XER-11203] c14 N71-28994
- COHERENT RADIATION**  
Method and apparatus for producing intense, coherent, monochromatic light from low temperature plasma  
[NASA-CASE-XNP-04167-3] c25 N72-21693  
Design and development of multichannel laser remote control system using modulated helium-neon laser as transmitter and light collector as receiving antenna  
[NASA-CASE-LAR-10311-1] c16 N73-16536  
Monitoring atmospheric pollutants with a heterodyne radiometer transmitter-receiver
- [NASA-CASE-NPO-11919-1] c14 N74-11284  
Apparatus for scanning the surface of a cylindrical body  
[NASA-CASE-NPO-11861-1] c14 N74-20009  
Optically detonated explosive device  
[NASA-CASE-NPO-11743-1] c33 N74-27425  
Method and apparatus for controlling the contrast of a photographic transparency  
[NASA-CASE-GSC-11989-1] c35 N76-16395  
Method and apparatus for generating coherent radiation in the ultra-violet region and above by use of distributed feedback  
[NASA-CASE-NPO-13346-1] c36 N76-29575
- COINCIDENCE CIRCUITS**  
Frequency measurement by coincidence detection with standard frequency  
[NASA-CASE-MSC-14649-1] c33 N76-16331
- COLD CATHODES**  
Cold cathode discharge tube with pressurized gas cell for meteoroid detection in space  
[NASA-CASE-LAR-10483-1] c14 N73-32327
- COLD WORKING**  
Cold metal hydroforming techniques using epoxy molds for counteracting creep or stretch  
[NASA-CASE-XLE-05641-1] c15 N71-26346
- COLLAPSE**  
Collapsible piston for hypervelocity gun  
[NASA-CASE-MSC-13789-1] c11 N73-32152
- COLLECTION**  
Automatic liquid inventory collecting and dispensing unit  
[NASA-CASE-LAR-11071-1] c35 N75-19611
- COLLIMATION**  
Long range laser traversing system  
[NASA-CASE-GSC-11262-1] c16 N74-21091  
Optical alignment device  
[NASA-CASE-ARC-10932-1] c74 N76-22993
- COLLIMATORS**  
X ray collimating structure for focusing radiation directly onto detector  
[NASA-CASE-XHQ-04106] c14 N70-40240  
Collimator for analyzing spatial location of near and distant sources of radiation  
[NASA-CASE-MPS-20546-2] c14 N73-30389  
Multiplate focusing collimator --- for scanning small near radiation sources  
[NASA-CASE-MPS-20932-1] c35 N75-19616
- COLLISION AVOIDANCE**  
Cooperative Doppler radar system for avoiding midair collisions  
[NASA-CASE-LAR-10403] c21 N71-11766  
Satellite aided aircraft collision avoidance system effective for large number of aircraft  
[NASA-CASE-ERC-10090] c21 N71-24948  
Vertically stacked collinear array of independently fed omnidirectional antennas for use in collision warning systems on commercial aircraft  
[NASA-CASE-LAR-10545-1] c09 N72-21244  
Economic satellite aided vehicle avoidance system for preventing midair collisions  
[NASA-CASE-ERC-10419] c21 N72-21631  
Development and operating principles of collision warning system for aircraft accident prevention  
[NASA-CASE-HQN-10703] c21 N73-13643  
Development and characteristics of electronic signalling system and data processing equipment for warning systems to avoid midair collisions between aircraft  
[NASA-CASE-LAR-10717-1] c21 N73-30641  
Satellite aided vehicle avoidance system  
[NASA-CASE-ERC-10419-1] c03 N75-30132
- COLLOIDAL GENERATORS**  
Colloidal particle generator for electrostatic engine for propelling space vehicles  
[NASA-CASE-XLE-00817] c28 N70-33265
- COLLOIDAL PROPELLANTS**  
Colloidal particle generator for electrostatic engine for propelling space vehicles  
[NASA-CASE-XLE-00817] c28 N70-33265  
Low density and low viscosity magnetic propellant for use under zero gravity conditions  
[NASA-CASE-XLE-01512] c12 N70-40124  
Electrostatic microthruster propulsion system with annular slit colloid thruster  
[NASA-CASE-GSC-10709-1] c28 N71-25213
- COLOR**  
Chemical spot test for identifying magnesium or

- magnesium alloys used in aerospace applications  
[NASA-CASE-LAR-10953-1] c17 N73-27446
- COLOR PHOTOGRAPHY**  
Color photointerpretation of interference colors reflected from thin film oil-coated components in moving gases for gas flow visualization  
[NASA-CASE-XNP-01779] c12 N71-20815
- COLOR TELEVISION**  
Color television system utilizing single gun current sensitive color cathode ray tube  
[NASA-CASE-ERC-10098] c09 N71-28618  
Color television system for allowing monochrome television camera to produce color pictures  
[NASA-CASE-MSC-12146-1] c07 N72-17109  
Video tape recorder with scan conversion playback for color television signals  
[NASA-CASE-NPO-10166-1] c07 N73-22076  
Method and system for producing chroma signals  
[NASA-CASE-MSC-14683-1] c74 N75-33835  
Full color hybrid display for aircraft simulators  
[NASA-CASE-ARC-10903-1] c09 N76-10148  
Scan converting video tape recorder  
[NASA-CASE-NPO-10166-2] c35 N76-16391
- COLOR VISION**  
Color perception tester for testing color code perceptiveness of individuals  
[NASA-CASE-KSC-10278] c05 N72-16015
- COLUMNS (PROCESS ENGINEERING)**  
Micropacked column for rapid chromatographic analysis using low gas flow rates  
[NASA-CASE-XNP-04816] c06 N69-39936
- COMBINATORIAL ANALYSIS**  
Apparatus for computing square roots  
[NASA-CASE-XGS-04768] c08 N71-19437
- COMBUSTION**  
Device for detection of combustion light preceding gaseous explosions  
[NASA-CASE-LAR-10739-1] c14 N73-16484
- COMBUSTION CHAMBERS**  
Rocket chamber leak test fixture using tubular plug  
[NASA-CASE-XPR-09479] c14 N69-27503  
Propellant injectors for rocket combustion chambers  
[NASA-CASE-XLE-00103] c28 N70-33241  
Metal ribbon wrapped outer wall for regeneratively cooled combustion chamber  
[NASA-CASE-XLE-00164] c15 N70-36411  
Apparatus for cooling and injecting hypergolic propellants into combustion chamber of small rocket engine  
[NASA-CASE-XLE-00303] c15 N70-36535  
Ignition system for monopropellant combustion devices  
[NASA-CASE-XNP-00249] c28 N70-38249  
Fabrication method for lightweight regeneratively cooled combustion chamber of channel construction  
[NASA-CASE-XLE-00150] c28 N70-41818  
Rocket combustion chamber stability by controlling transverse instability during propellant combustion  
[NASA-CASE-XLE-04603] c33 N71-21507  
Regenerative cooling system for rocket combustion chamber using coolant tubes in convergent-divergent nozzle  
[NASA-CASE-XLE-04857] c28 N71-23968  
Rocket engine injector orifice to accommodate changes in density, velocity, and pressure, thereby maintaining constant mass flow rate of propellant into rocket combustion chamber  
[NASA-CASE-XLE-03157] c28 N71-24736  
Coaxial injector for mixing liquid propellants within combustion chambers  
[NASA-CASE-NPO-11095] c15 N72-25455  
Swirl can, full-annulus combustion chambers for high performance gas turbine engines  
[NASA-CASE-LEW-11326-1] c23 N73-30665  
Method of electroforming a rocket chamber  
[NASA-CASE-LEW-11118-1] c15 N74-32919  
Heat exchanger --- rocket combustion chambers and cooling systems  
[NASA-CASE-LEW-12252-1] c34 N75-19579  
A heat exchanger and method of making  
[NASA-CASE-LEW-12441-1] c34 N75-19580  
Controlled separation combustor --- airflow distribution in gas turbine engines  
[NASA-CASE-LEW-11593-1] c20 N76-14190
- Fuel combustor  
[NASA-CASE-LEW-12137-1] c20 N76-20215  
Reduction of nitric oxide emissions from a combustor  
[NASA-CASE-ARC-10814-1] c07 N76-23270  
Direct heating surface combustor  
[NASA-CASE-LEW-11877-1] c44 N76-28646
- COMBUSTION CONTROL**  
Pressurized gas injection for burning rate control of solid propellants  
[NASA-CASE-XLE-03494] c27 N71-21819
- COMBUSTION EFFICIENCY**  
Fuel injection system for maximum combustion efficiency of rocket engines  
[NASA-CASE-XLE-00111] c28 N70-38199
- COMBUSTION PHYSICS**  
Characteristics of solid propellant rocket engine with controlled rate of thrust buildup operating in vacuum environment  
[NASA-CASE-NPO-11559] c28 N73-24784
- COMBUSTION PRODUCTS**  
Contamination free separation nut eliminating combustion products from ambient surroundings generated by squib firing  
[NASA-CASE-XGS-01971] c15 N71-15922  
Device for generating and controlling combustion products for testing of fire detection system  
[NASA-CASE-GSC-11095-1] c14 N72-10375  
System for minimizing internal combustion engine pollution emission  
[NASA-CASE-NPO-13402-1] c37 N76-18457
- COMBUSTION STABILITY**  
Rocket combustion chamber stability by controlling transverse instability during propellant combustion  
[NASA-CASE-XLE-04603] c33 N71-21507
- COMMAND AND CONTROL**  
Multiple rate digital command detection system with range clean-up capability  
[NASA-CASE-NPO-13753-1] c61 N76-18826
- COMMAND MODULES**  
Energy absorbing crew couch strut for Apollo command module  
[NASA-CASE-MSC-12279] c15 N72-17450
- COMMUNICATING**  
Communication between computers using two identical communications links  
[NASA-CASE-NPO-11161] c08 N72-25207
- COMMUNICATION**  
Circuitry for developing autocorrelation function continuously within signal receiving period  
[NASA-CASE-XNP-00746] c07 N71-21476  
Superconductive resonant cavity for improved signal to noise ratio in communication signal  
[NASA-CASE-MSC-12259-2] c07 N72-33146
- COMMUNICATION CABLES**  
Method of making molded electric connector for use with flat conductor cables  
[NASA-CASE-XNP-03498] c15 N71-15986  
Process for making RP shielded cable connector assemblies and resulting structures  
[NASA-CASE-GSC-11215-1] c09 N73-28083  
Fiber distributed feedback laser  
[NASA-CASE-NPO-13531-1] c36 N76-24553
- COMMUNICATION EQUIPMENT**  
Multiplexed communication system design including automatic correction of transmission errors introduced by frequency spectrum shifts  
[NASA-CASE-XNP-01306] c07 N71-20814  
Binary data decoding device for use at receiving end of communication channel  
[NASA-CASE-NPO-10118] c07 N71-24741  
Characteristics of data-aided carrier tracking loop used for tracking carrier in angle modulated communications system  
[NASA-CASE-NPO-11282] c10 N73-16205  
Doppler compensated communication system for locating supersonic transport position  
[NASA-CASE-GSC-10087-4] c07 N73-20174  
Differential phase shift keyed communication system  
[NASA-CASE-MSC-14065-1] c07 N74-26654
- COMMUNICATION SATELLITES**  
Erectable, inflatable, radio signal reflecting passive communication satellite  
[NASA-CASE-XLA-00210] c30 N70-40309  
Development of antenna system for spin stabilized communication satellite for

- simultaneous reception and transmission of data  
[NASA-CASE-XGS-02607] c31 N71-23009
- Elimination of tracking occultation problems  
occurring during continuous monitoring of  
interplanetary missions by using Earth  
orbiting communications satellite  
[NASA-CASE-XAC-06029-1] c31 N71-24813
- Satellite radio communication system with remote  
steerable antenna  
[NASA-CASE-XNP-02389] c07 N71-28900
- Satellite aided vehicle avoidance system  
[NASA-CASE-ERC-10419-1] c03 N75-30132
- Ultra stable frequency distribution system  
[NASA-CASE-NPO-13836-1] c32 N76-31373
- COMMUTATION**  
High speed low level voltage commutating switch  
[NASA-CASE-XAC-00060] c09 N70-39915
- COMMUTATORS**  
Rocket-borne aspect sensor consisting of  
radiation sensor, apertured disk, commutator,  
and counting circuits  
[NASA-CASE-IGS-08266] c14 N69-27432
- Commutator for steering precisely controlled  
bidirectional currents through numerous loads  
by use of magnetic core shift registers  
[NASA-CASE-NPO-10743] c08 N72-21199
- COMPARATOR CIRCUITS**  
Describing frequency discriminator using digital  
logic circuits and supplying single binary  
output signal  
[NASA-CASE-MPS-14322] c08 N71-18692
- Development of pulsed differential comparator  
circuit  
[NASA-CASE-XLE-03804] c10 N71-19471
- COMPARATORS**  
Photometric flow meter with comparator reference  
means  
[NASA-CASE-XGS-01331] c14 N71-22996
- Characteristics of comparator circuits for  
comparison of binary numbers in information  
processing system  
[NASA-CASE-XNP-04819] c08 N71-23295
- COMPENSATORS**  
Star image motion compensator using telescope  
for maintaining fixed images  
[NASA-CASE-LAR-10523-1] c14 N72-22444
- COMPOSITE MATERIALS**  
High strength reinforced metallic composites for  
applications over wide temperature range  
[NASA-CASE-XLE-02428] c17 N70-33288
- Method for producing fiber reinforced metallic  
composites with high strength and elasticity  
over wide temperature range  
[NASA-CASE-XLE-00231] c17 N70-38198
- Composites reinforced with short metal fibers or  
whiskers and having high tensile strength  
[NASA-CASE-XLE-00228] c17 N70-38490
- Unfired-ceramic, highly reflective composite  
insulation for large launch vehicles  
[NASA-CASE-XMP-01030] c18 N70-41583
- Freeze casting of metal ceramic and refractory  
compound powders into plastic slips  
[NASA-CASE-XLE-00106] c15 N71-16076
- Preparation and characteristics of lightweight  
refractory insulation  
[NASA-CASE-XMP-05279] c18 N71-16124
- Flexible composite membrane structure impervious  
to extremely reactive chemicals in rocket  
propellants  
[NASA-CASE-XNP-08837] c18 N71-16210
- Cryostat for flexure fatigue testing of  
composite materials  
[NASA-CASE-IMP-02964] c14 N71-17659
- Description of method for producing metallic  
composites reinforced with ceramic and  
refractory hard metals that are fibered in place  
[NASA-CASE-XLE-03925] c18 N71-22894
- Electrically coupled individually encapsulated  
solar cell matrix  
[NASA-CASE-NPO-11190] c03 N71-34044
- Heat treatment and tooling for forming shapes  
from thermosetting honeycomb core sheets  
[NASA-CASE-NPO-11036] c15 N72-24522
- Method for making fiber composites with high  
strength at high temperatures  
[NASA-CASE-LEW-10424-2-2] c18 N72-25539
- Development of thermal compensating structure  
which maintains uniform length with changes in  
temperature  
[NASA-CASE-MPS-20433] c15 N72-28496
- Fabrication of polyphenylquinoxaline composite  
articles by means of in situ polymerization of  
monomers  
[NASA-CASE-LEW-11879-1] c18 N74-20152
- Hybrid composite laminate structures  
[NASA-CASE-LEW-12118-1] c24 N75-32180
- Bearing material --- composite material with low  
friction surface for rolling or sliding contact  
[NASA-CASE-LEW-11930-1] c24 N76-22309
- Fluid seal for rotating shafts  
[NASA-CASE-LEW-11676-1] c37 N76-22541
- Non-flammable elastomeric fiber from a  
fluorinated elastomer and containing an  
halogenated flame retardant  
[NASA-CASE-MSC-14331-1] c27 N76-24405
- Bearing material  
[NASA-CASE-LEW-11930-2] c24 N76-26282
- COMPOSITE PROPELLANTS**  
Ammonium perchlorate composite propellant with  
organic Cu/II/ chelate catalytic additive  
[NASA-CASE-LAR-10173-1] c27 N71-14090
- Molded composite pyrogen igniter for rocket motors  
[NASA-CASE-LAR-12018-1] c20 N76-29365
- COMPOSITE STRUCTURES**  
Inflatable honeycomb panel element for  
lightweight structures usable in space  
stations and other construction  
[NASA-CASE-XLA-00204] c32 N70-36536
- Shrouded composite propulsion system configuration  
[NASA-CASE-XLA-01043] c28 N71-10780
- Development of composite structures for  
spacecraft to serve as anti-meteoroid device.  
[NASA-CASE-LAR-10788-1] c31 N73-20880
- Bonding method in the manufacture of continuous  
regression rate sensor devices  
[NASA-CASE-LAR-10337-1] c24 N75-30260
- Varying density composite structure  
[NASA-CASE-LAR-11181-1] c39 N75-31479
- COMPOSITION (PROPERTY)**  
Moving particle composition analyzer  
[NASA-CASE-GSC-11889-1] c35 N76-16393
- Flame retardant elastomeric compositions.  
[NASA-CASE-MSC-14331-2] c27 N76-24408
- Flame retardant elastomeric compositions  
[NASA-CASE-MSC-14331-3] c27 N76-24409
- COMPRESSED AIR**  
Actuator using compressed gas as driving force  
to control valve handling large liquid flows  
[NASA-CASE-XHQ-01208] c15 N70-35409
- COMPRESSED GAS**  
Gas compression analysis --- for oxygen supply  
equipment  
[NASA-CASE-MSC-14757-1] c37 N76-13496
- COMPRESSIBLE FLUIDS**  
Capacitor for measuring density of compressible  
fluid in liquid, gas, or liquid and gas phases  
[NASA-CASE-XLE-00143] c14 N70-36618
- Apparatus for tensile strength testing of  
specimen by pressurized fluid  
[NASA-CASE-XKS-06250] c14 N71-15600
- COMPRESSING**  
Method and apparatus for producing very low  
temperature refrigeration based on gas  
pressure balance  
[NASA-CASE-XNP-08877] c15 N71-23025
- Method for compression molding of thermosetting  
plastics utilizing a temperature gradient  
across the plastic to cure the article  
[NASA-CASE-LAR-10489-1] c15 N74-18124
- COMPRESSION LOADS**  
Pressure transducer for systems for measuring  
forces of compression  
[NASA-CASE-NPO-10832] c14 N72-21405
- Solid medium thermal engine  
[NASA-CASE-ARC-10461-1] c33 N74-33379
- COMPRESSION TESTS**  
Test equipment to prevent buckling of small  
diameter specimens during compression tests  
[NASA-CASE-LAR-10440-1] c14 N73-32323
- Anti-buckling fatigue test assembly --- for  
subjecting metal specimen to tensile and  
compressive loads at constant temperature  
[NASA-CASE-LAR-10426-1] c32 N74-19528
- COMPRESSOR BLADES**  
Process for welding compressor and turbine  
blades to rotors and discs of jet engines  
[NASA-CASE-LEW-10533-1] c15 N73-28515



## COMPRESSORS

- Thermal pump-compressor for converting solar energy  
[NASA-CASE-XLA-00377] c33 N71-17610
- Gas compression analysis --- for oxygen supply equipment  
[NASA-CASE-MSC-14757-1] c37 N76-13496
- Self-energized plasma compressor  
[NASA-CASE-NFS-22145-2] c75 N76-17951

## COMPUTATION

- Apparatus for computing square roots  
[NASA-CASE-XGS-04768] c08 N71-19437

## COMPUTER COMPONENTS

- Computer circuit performing both counting and shifting logic operations also capable of miniaturization and integration in basic circuits  
[NASA-CASE-XNP-01753] c08 N71-22897
- Two-dimensional radiant energy array computers and computing devices --- analog to digital converters  
[NASA-CASE-GSC-11839-3] c60 N76-18804

## COMPUTER GRAPHICS

- System for digitizing graphic displays  
[NASA-CASE-NPO-10745] c08 N72-22164

## COMPUTER PROGRAMMING

- Encoders designed to generate comma free biorthogonal Reed-Muller type code comprising conversion of 64 6-bit words into 64 32-bit data for communication purposes  
[NASA-CASE-NPO-10595] c10 N71-25917
- Priority interrupt system --- comprised of four registers  
[NASA-CASE-NPO-13067-1] c60 N76-18800

## COMPUTER PROGRAMS

- Self testing and repairing computer comprising control and diagnostic unit and rollback points for error correction  
[NASA-CASE-NPO-10567] c08 N71-24633
- Development of computer program for estimating reliability of self-repair and fault-tolerant systems with respect to selected system and mission parameters  
[NASA-CASE-NPO-13086-1] c15 N73-12495
- Development of flight simulator system to show position of joystick displacement  
[NASA-CASE-NPO-11497] c08 N73-25206

## COMPUTER STORAGE DEVICES

- Magnetic matrix memory system for nondestructive reading of information contained in matrix  
[NASA-CASE-XMP-05835] c08 N71-12504
- Binary sequence detector with few memory elements and minimized logic circuit complexity  
[NASA-CASE-XNP-05415] c08 N71-12505
- Pulsed magnetic core memory element with blocking oscillator feedback for interrogation without loss of digital information  
[NASA-CASE-XGS-03303] c08 N71-18595
- Reliable magnetic core circuit apparatus with application in selection matrices for digital memories  
[NASA-CASE-XNP-01318] c10 N71-23033
- Time division multiplexed telemetry transmitting system controlled by programmed memory  
[NASA-CASE-GSC-10131-1] c07 N71-24624
- Serial digital decoder design with square circuit matrix and serial memory storage units  
[NASA-CASE-NPO-10150] c08 N71-24650
- Digital memory system with multiple switch cores for driving each word location  
[NASA-CASE-XNP-01466] c10 N71-26434
- Redundant memory for enhanced reliability of digital data processing system  
[NASA-CASE-GSC-10564] c10 N71-29135
- Memory device employing semiconductor and ferroelectric properties of single crystal barium titanate  
[NASA-CASE-ERC-10307] c08 N72-21198
- Shared memory for a fault-tolerant computer  
[NASA-CASE-NPO-13139-1] c60 N76-21914

## COMPUTER SYSTEMS DESIGN

- Adaptive voting computer system  
[NASA-CASE-MSC-13932-1] c08 N74-14920

## COMPUTER TECHNIQUES

- Automated system for identifying traces of organic chemical compounds in aqueous solutions  
[NASA-CASE-NPO-13063-1] c25 N76-18245
- Apparatus for determining thermophysical properties of test specimens --- processing of

analog signals

- [NASA-CASE-LAR-11883-1] c35 N76-18415

## COMPUTERIZED SIMULATION

- Integrated time shared instrumentation display for aerospace vehicle simulators  
[NASA-CASE-XLA-01952] c08 N71-12507

## COMPUTERS

- Telemetry data unit to form multibit words for use between demodulator and computer  
[NASA-CASE-XNP-09225] c09 N69-24333
- Data compression processor for monitoring analog signals, by sampling procedure  
[NASA-CASE-NPO-10068] c08 N71-19288
- Communication between computers using two identical communications links  
[NASA-CASE-NPO-11161] c08 N72-25207

## CONCAVITY

- Concave grating spectrometer for use in near and vacuum ultraviolet regions  
[NASA-CASE-XGS-01036] c14 N70-40003

## CONCENTRATORS

- Concentrator device for controlling direction of solar energy onto energy converters  
[NASA-CASE-XLE-01716] c09 N70-40234
- Thermostatically controlled non-tracking type solar energy concentrator  
[NASA-CASE-NPO-13497-1] c44 N76-14602

## CONDENSATES

- Apparatus for determining volatile condensable material present in polymeric products  
[NASA-CASE-XNP-09699] c06 N71-24607
- Condensate removal device for heat exchanger  
[NASA-CASE-MSC-14143-1] c77 N75-20139

## CONDENSERS (LIQUIFIERS)

- Condenser-separator for dehumidifying air utilizing sintered metal surface  
[NASA-CASE-XLA-08645] c15 N69-21465
- Condensate removal device for heat exchanger  
[NASA-CASE-MSC-14143-1] c77 N75-20139

## CONDUCTING FLUIDS

- Multiducted electromagnetic pump for conductive liquids  
[NASA-CASE-NPO-10755] c15 N71-27084
- Internally supported flexible duct joint --- device for conducting fluids in high pressure systems  
[NASA-CASE-NFS-19193-1] c37 N75-19686

## CONDUCTIVE HEAT TRANSFER

- Measuring conductive heat flow and thermal conductivity of laminar gas stream in cylindrical plug to simulate atmospheric reentry  
[NASA-CASE-XLE-00266] c14 N70-34156
- Space suit body heat exchanger design composed of thermal conductance yarn and liquid coolant loops  
[NASA-CASE-XMS-09571] c05 N71-19439

## CONDUCTORS

- Support for flexible conductor cable between drawers or racks holding electronic equipment and cabinet assembly housing drawers or racks  
[NASA-CASE-XMP-07587] c15 N71-18701
- Method for making conductors for ferrite memory arrays --- from pre-formed metal conductors  
[NASA-CASE-LAR-10994-1] c24 N75-13032

## CONES

- Black body radiometer design with temperature sensing and cavity heat source cone winding  
[NASA-CASE-XNP-09701] c14 N71-26475

## CONFINEMENT

- Observation window for internal gas confining chamber  
[NASA-CASE-NPO-10890] c11 N73-12265

## CONICAL BODIES

- Conical valve plug for use with reactive cryogenic fluids  
[NASA-CASE-XLE-00715] c15 N70-34859
- Conical reflector antenna with feed approximating line source  
[NASA-CASE-NPO-10303] c07 N72-22127
- Characteristics of microwave antenna with conical reflectors to generate plane wave front  
[NASA-CASE-NPO-11661] c07 N73-14130

## CONICAL SHELLS

- Capacitance measuring device for determining flare accuracy on tapered tubes  
[NASA-CASE-IKS-03495] c14 N69-39785
- Foldable, double cone and parabolic reflector system for solar ray concentration  
[NASA-CASE-XLA-04622] c03 N70-41580

## CONNECTORS

## SUBJECT INDEX

- Rotary spindle lathe attachments for machining geometrical cones  
[NASA-CASE-XMS-04292] c15 N71-22722
- CONNECTORS**
- Expanding and contracting connector strip for solar cell array of Nimbus satellite  
[NASA-CASE-XGS-01395] c03 N69-21539
- Design and development of quick release connector  
[NASA-CASE-XLA-01141] c15 N71-13789
- Development and characteristics of strainer for flared tube fitting  
[NASA-CASE-XLA-05056] c15 N72-11389
- Process for making RF shielded cable connector assemblies and resulting structures  
[NASA-CASE-GSC-11215-1] c09 N73-28083
- Percutaneous connector device --- for transporting external electrical signals to internal body parts  
[NASA-CASE-KSC-10849-1] c54 N76-19816
- CONSCIOUSNESS**
- Development of apparatus and method for quantitatively measuring brain activity as automatic indication of sleep state and level of consciousness  
[NASA-CASE-MSC-13282-1] c05 N71-24729
- CONSTRAINTS**
- Three stage motion restraining mechanism for restraining and damping three dimensional vibrational movement of gimballed package during launch of spacecraft  
[NASA-CASE-GSC-10306-1] c15 N71-24694
- Cable guide and restraint device for reefing tubes in uniform manner  
[NASA-CASE-LAR-10129-1] c15 N73-25512
- Development of restraint system for securing personnel to ergometer while exercising under weightless conditions  
[NASA-CASE-MPS-21046-1] c14 N73-27377
- Reefing system  
[NASA-CASE-LAR-10129-2] c15 N74-20063
- CONSTRUCTION MATERIALS**
- Apparatus and method of assembling building blocks by folding pre-cut flat sheets of material during on-site construction  
[NASA-CASE-MSC-12233-1] c15 N72-25454
- Development of construction block in form of container folded from flat sheet and filled with solid material for architectural purposes  
[NASA-CASE-MSC-12233-2] c32 N73-13921
- CONTACT POTENTIALS**
- Lightweight, rugged, inexpensive satellite battery for producing electrical power from ionosphere using electrodes with different contact potentials  
[NASA-CASE-XGS-01593] c03 N70-35408
- CONTAINERS**
- Manufacture of fluid containers from fused coated polyester sheets having resealable septum  
[NASA-CASE-NPO-10123] c15 N71-24835
- Method for locating leaks in hermetically sealed containers  
[NASA-CASE-ERC-10045] c15 N71-24910
- Quantitative liquid measurements in container by resonant frequencies  
[NASA-CASE-XNP-02500] c18 N71-27397
- CONTAMINANTS**
- Fluid transferring system design for purging toxic, corrosive, or noxious fluids and fumes from materials handling equipment for cleansing and accident prevention  
[NASA-CASE-XMS-01905] c12 N71-21089
- CONTAMINATION**
- Emission spectroscopy method for contamination monitoring of inert gas metal arc welding  
[NASA-CASE-XNP-02039] c15 N71-15871
- Contamination free separation nut eliminating combustion products from ambient surroundings generated by squib firing  
[NASA-CASE-XGS-01971] c15 N71-15922
- Apparatus and process for volumetrically dispensing reagent quantities of volatile chemicals for small batch reactions  
[NASA-CASE-NPO-10070] c15 N71-27372
- Portable tester for monitoring bacterial contamination by adenosine triphosphate light reaction  
[NASA-CASE-GSC-10879-1] c14 N72-25413
- Manufacture of glass-to-metal seals wherein the cleanliness of the process is enhanced and the leak resistance of the resulting seal is maximized  
[NASA-CASE-LAR-11563-1] c37 N76-21558
- CONTINUOUS WAVE LASERS**
- High power laser apparatus and system  
[NASA-CASE-XLE-2529-2] c36 N75-27364
- CONTINUOUS WAVE RADAR**
- Phase locked loop with sideband rejecting properties in continuous wave tracking radar  
[NASA-CASE-XNP-02723] c07 N70-41680
- FM/CW radar system  
[NASA-CASE-MPS-22234-1] c32 N76-33364
- CONTOURS**
- Describing device for surveying contour of surface using X-Y plotter and traveling transducer  
[NASA-CASE-XLA-08646] c14 N71-17586
- Processing system for semiperiodic electrical signals to produce real time contoured display  
[NASA-CASE-MSC-13407-1] c10 N72-20225
- CONTROL**
- Valve assembly for controlling simultaneously more than one fluid flow, and having stable qualities under loads  
[NASA-CASE-XMS-05890] c09 N71-23191
- Control system for pressure balance device used in calibrating pressure gages  
[NASA-CASE-XNP-04134] c14 N71-23755
- Failure detection and control means for improved drift performance of a gimballed platform system  
[NASA-CASE-MPS-23551-1] c04 N76-26175
- CONTROL BOARDS**
- Ionization control system design for monitoring separately located ion gage pressures on vacuum chambers  
[NASA-CASE-XLE-00787] c14 N71-21090
- CONTROL EQUIPMENT**
- Stepping motor control apparatus exciting windings in proper time sequence to cause motor to rotate in either direction  
[NASA-CASE-GSC-10366-1] c10 N71-18772
- Voltage drift compensation circuit for analog-to-digital converter  
[NASA-CASE-XNP-04780] c08 N71-19687
- Development of attitude control system for vertical takeoff aircraft using reaction nozzles displaced from various axes of aircraft  
[NASA-CASE-XAC-08972] c02 N71-20570
- Device for controlling rotary potentiometer mounted on aircraft steering wheel or aileron control  
[NASA-CASE-XAC-10019] c15 N71-23809
- Controlled release device for use in launching rockets or missiles  
[NASA-CASE-XKS-03338] c15 N71-24043
- Circuits for controlling reversible dc motor  
[NASA-CASE-XNP-07477] c09 N71-26092
- Digital memory system with multiple switch cores for driving each word location  
[NASA-CASE-XNP-01466] c10 N71-26434
- Fluid control jet amplifiers  
[NASA-CASE-XLE-09341] c12 N71-28741
- System for control of variable signal generator  
[NASA-CASE-NPO-11064] c07 N72-11150
- Solid state remote circuit selector switching circuit  
[NASA-CASE-LEW-10387] c09 N72-22201
- Development of device for simulating charge and discharge cycle of battery in synchronous orbit  
[NASA-CASE-GSC-11211-1] c03 N72-25020
- Bridge-type gain control circuit  
[NASA-CASE-GSC-10786-1] c10 N72-28241
- Interferometer prism and control system for precisely determining direction to remote light source  
[NASA-CASE-ARC-10278-1] c14 N73-25463
- Digital controller for a Baum folding machine --- providing automatic counting and machine shutoff  
[NASA-CASE-LAR-10688-1] c15 N74-21056
- Flow control valve --- for high temperature fluids  
[NASA-CASE-NPO-11951-1] c15 N74-21065
- Inrush current limiter --- control circuit  
[NASA-CASE-GSC-11789-1] c33 N75-16748
- Variable ratio mixed-mode bilateral master-slave control system for shuttle remote manipulator system  
[NASA-CASE-MSC-14245-1] c18 N75-27041

- Control for nuclear thermionic power source ---  
power supply circuits, energy policy  
[NASA-CASE-NPO-13114-2] c44 N76-15573
- Transonic and supersonic aircraft wherein the  
problems of roll control at high angles of  
attack are minimized  
[NASA-CASE-LAR-11868-1] c08 N76-19159
- CONTROL ROCKETS**  
Unit for generating thrust from catalytic  
decomposition of hydrogen peroxide, for high  
altitude aircraft or spacecraft reaction control  
[NASA-CASE-XMS-00583] c28 N70-38504
- CONTROL RODS**  
Nuclear reactor control rod assembly with  
improved driving mechanism  
[NASA-CASE-XLE-00298] c22 N70-34501
- Manual control mechanism for adjusting control  
rod to null position  
[NASA-CASE-XLA-01808] c15 N71-20740
- CONTROL STABILITY**  
Design and development of active control system  
for air cushion vehicle to reduce or eliminate  
effects of excessive vertical vibratory  
acceleration  
[NASA-CASE-LAR-10531-1] c02 N73-13023
- CONTROL SURFACES**  
Conical valve plug for use with reactive  
cryogenic fluids  
[NASA-CASE-XLE-00715] c15 N70-34859
- Attitude control system for spacecraft based on  
conversion of incident solar radiation on  
movable control surfaces into mechanical torques  
[NASA-CASE-XNP-02982] c31 N70-41855
- CONTROL UNITS (COMPUTERS)**  
Self testing and repairing computer comprising  
control and diagnostic unit and rollback  
points for error correction  
[NASA-CASE-NPO-10567] c08 N71-24633
- CONTROL VALVES**  
Electromechanical actuator and its use in rocket  
thrust control valve  
[NASA-CASE-XNP-05975] c15 N69-23185
- Multiple orifice fluid flow control valve to  
provide different flow patterns  
[NASA-CASE-ERC-10208] c15 N70-10867
- Conical valve plug for use with reactive  
cryogenic fluids  
[NASA-CASE-XLE-00715] c15 N70-34859
- Control valve and coaxial variable injector for  
controlling bipropellant mixture ratio and flow  
[NASA-CASE-XNP-09702] c15 N71-17654
- Control valve for switching main stream of fluid  
from one stable position to another by means  
of electrohydrodynamic forces  
[NASA-CASE-NPO-10416] c12 N71-27332
- Force balanced throttle valve for fuel control  
in rocket engines  
[NASA-CASE-NPO-10808] c15 N71-27432
- Dual stage check valve for cryogenic supply  
systems used in space flight environmental  
control system  
[NASA-CASE-MSC-13587-1] c15 N73-30459
- Airflow control system for supersonic inlets  
[NASA-CASE-LEW-11188-1] c02 N74-20646
- Ultrasonically bonded valve assembly  
[NASA-CASE-NPO-13360-1] c37 N75-25185
- Fluid valve assembly  
[NASA-CASE-MSC-12731-1] c37 N76-26511
- Pressure modulating valve  
[NASA-CASE-MSC-14905-1] c34 N76-29537
- CONTROLLED ATMOSPHERES**  
Rectangular electric conductors for conductor  
cables to withstand spacecraft vibration and  
controlled atmosphere  
[NASA-CASE-MPS-14741] c09 N70-20737
- High voltage pulse generator for testing flash  
and ignition limits of nonmetallic materials  
in controlled atmospheres  
[NASA-CASE-MSC-12178-1] c09 N71-13518
- System for continuous monitoring of exhalations,  
weighing, and cage cleaning for animal exposed  
to controlled atmosphere for toxic study  
[NASA-CASE-XAC-05333] c11 N71-22875
- CONTROLLERS**  
Unitary three-axis controller for flight  
vehicles within or outside atmosphere  
[NASA-CASE-XPR-00181] c21 N70-33279
- Two axis flight controller with potentiometer  
control shafts directly coupled to rotatable  
ball members  
[NASA-CASE-XPR-04104] c03 N70-42073
- Hand controller operable about three  
respectively perpendicular axes and capable of  
actuating signal generators for attitude  
control devices  
[NASA-CASE-XMS-07487] c15 N71-23255
- Solid state controller three axes controller  
[NASA-CASE-MSC-12394-1] c03 N74-10942
- CONVECTIVE FLOW**  
Design and development of device to prevent  
geysing during convective circulation of  
cryogenic fluids  
[NASA-CASE-KSC-10615] c15 N73-12486
- CONVECTIVE HEAT TRANSFER**  
Thin film gauge --- for measuring convective  
heat transfer rates along test surfaces in  
wind tunnels  
[NASA-CASE-NPO-10617-1] c14 N74-22095
- CONVERGENCE**  
Electrical device for developing converging  
spherical shock waves  
[NASA-CASE-MPS-20890] c14 N72-22439
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- Describing magnetic core current switching device for steering bipolar current pulses to memory units  
[NASA-CASE-NPO-10201] c08 N71-18694
- Circuit design for determining amount of photomultiplier tube light detection utilizing variable current source and dark current signals of opposite polarity  
[NASA-CASE-XMS-03478] c14 N71-21040
- Switching series regulator with gating control network  
[NASA-CASE-XMS-09352] c09 N71-23316
- Magnetic current regulator for saturable core transformer  
[NASA-CASE-ERC-10075] c09 N71-24800
- Automatic power supply circuit design for driving inductive loads and minimizing power consumption including solenoid example  
[NASA-CASE-NPO-10716] c09 N71-24892
- Turn on current transient limiter for controlling peak current flow in high capacity load  
[NASA-CASE-GSC-10413] c10 N71-26531

- Current regulating voltage divider design with load current shunting  
[NASA-CASE-MPS-20935] c09 N71-34212
- Circuit for monitoring power supply by ripple current indication  
[NASA-CASE-KSC-10162] c09 N72-11225
- Inrush current limiter --- control circuit  
[NASA-CASE-GSC-11789-1] c33 N75-16748

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- Apparatus and method for spin forming tubular elbows with high strength, uniform thickness, and close tolerances  
[NASA-CASE-XMP-01083] c15 N71-22723
- Two degree inverted flexure from single block of material  
[NASA-CASE-ARC-10345-1] c15 N73-12488

## CURVE FITTING

- Simulating voltage-current characteristic curves of solar cell panel with different operational parameters  
[NASA-CASE-XMS-01554] c10 N71-10578

## CURVED PANELS

- Fabrication of curved reflector segments for solar mirror  
[NASA-CASE-XLE-08917] c15 N71-15597
- Method and apparatus for bowing of instrument panels to improve radio frequency shielded enclosure  
[NASA-CASE-XMP-09422] c07 N71-19436
- Space erectable rollup solar array of arcuate solar panels furled on tapered drum for spacecraft storage during launch  
[NASA-CASE-NPO-10188] c03 N71-20273
- Forming mold for polishing and machining curved solar magnesium reflector with reinforcing ribs  
[NASA-CASE-XLE-08917-2] c15 N71-24836

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- Description of device for aligning stacked sheets of paper for repetitive cutting  
[NASA-CASE-XMS-04178] c15 N71-22798
- Portable cutting machine for piping weld preparation  
[NASA-CASE-XKS-07953] c15 N71-26134
- Precision surface cutter for screen circuit negatives and other microcircuits  
[NASA-CASE-XLA-09843] c15 N72-27485
- Insert facing tool --- manually operated cutting tool for forming studs in honeycomb material  
[NASA-CASE-MPS-21485-1] c15 N74-25968
- Grinding arrangement for ball nose milling cutters  
[NASA-CASE-LAR-10450-1] c15 N74-27905
- Ophthalmic liquifaction pump  
[NASA-CASE-LEW-12051-1] c52 N75-33640

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[NASA-CASE-XLA-03102] c14 N71-21079
- Precision alignment apparatus for cutting a workpiece  
[NASA-CASE-LAR-11658-1] c37 N76-13494

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- Pneumatic system for cyclic control of fluid flow in pneumatic device  
[NASA-CASE-XMS-04843] c03 N69-21469
- Multistage feedback shift register with states decomposable into cycles of equal length  
[NASA-CASE-NPO-11082] c08 N72-22167

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- Para-benzoguinone dioxime and concentrated mineral acid processed to yield intumescent or fire resistant, heat insulating materials  
[NASA-CASE-ARC-10304-1] c18 N73-26572

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[NASA-CASE-XLA-02059] c33 N71-24276
- Development of device for simulating cyclic thermal loading of flexible materials by application of mechanical stresses and deformations  
[NASA-CASE-LAR-10270-1] c32 N72-25877
- Material testing system with load sensor for applying and measuring cyclic tensile and compressive loads to test specimens  
[NASA-CASE-MPS-20673] c14 N73-20476

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[NASA-CASE-LEW-10518-2] c24 N72-28714  
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 beam, variable feed system  
 [NASA-CASE-GSC-11862-1] c32 N76-18295  
**CYLINDRICAL BODIES**  
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 cylindrical body  
 [NASA-CASE-NPO-11861-1] c14 N74-20009  
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 [NASA-CASE-HSC-19666-1] c37 N76-31529

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 vehicles by using rate gyroscope and angular  
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 [NASA-CASE-XLA-01989] c21 N70-34295  
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 [NASA-CASE-XLA-02551] c21 N71-21708  
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 [NASA-CASE-GSC-10306-1] c15 N71-24694  
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 [NASA-CASE-GSC-11205-1] c15 N73-25513  
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 operating in resonant mode  
 [NASA-CASE-ERC-10403-1] c10 N73-26228

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 analog to digital converters  
 [NASA-CASE-XAC-00404] c08 N70-40125  
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 location and data acquisition  
 [NASA-CASE-GSC-10083-1] c30 N71-16090  
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 analog signal to digital values  
 [NASA-CASE-NPO-10344] c10 N71-26544  
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 buffer storage and timing device for magnetic  
 tape recording of PCM data and timing  
 information  
 [NASA-CASE-NPO-12107] c08 N71-27255  
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 two stations  
 [NASA-CASE-NPO-13292-1] c32 N75-15854

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Remote platform power conserving system  
 [NASA-CASE-GSC-11182-1] c15 N75-13007

**DATA COMPRESSION**

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 [NASA-CASE-XNP-08832] c08 N71-12506  
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 signals by sampling procedure  
 [NASA-CASE-NPO-10068] c08 N71-19288  
 Wide range analog data compression system  
 [NASA-CASE-XGS-02612] c08 N71-19435  
 Apparatus with summing network for compression  
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 sampling  
 [NASA-CASE-NPO-10769] c08 N72-11171  
 Data reduction and transmission system for TV  
 PCM data  
 [NASA-CASE-NPO-11243] c07 N72-20154  
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 [NASA-CASE-NPO-11820-1] c07 N74-19788  
 Space communication system for compressed data  
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 [NASA-CASE-NPO-13545-1] c32 N75-26207  
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 binary input number to 8-digit output  
 [NASA-CASE-XLA-00471] c08 N70-34778  
 Mechanical coordinate converter for use with  
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 [NASA-CASE-XNP-00610] c14 N70-36907  
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 [NASA-CASE-BRC-10048] c09 N72-25251

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 [NASA-CASE-KSC-10595] c08 N73-12176  
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 [NASA-CASE-NPO-11659-1] c14 N74-11283  
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 [NASA-CASE-LEW-11881-1] c33 N75-28316  
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 [NASA-CASE-NPO-11572] c07 N73-16121  
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 [NASA-CASE-NPO-11456] c08 N73-26176  
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 [NASA-CASE-NPO-13422-1] c60 N76-14818  
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 links  
 [NASA-CASE-GSC-11877-1] c74 N76-18913  
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 [NASA-CASE-ARC-10899-1] c35 N75-25127  
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 guidance of X-15 aircraft  
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 biorthogonal Reed-Muller type code comprising  
 conversion of 64 6-bit words into 64 32-bit  
 data for communication purposes  
 [NASA-CASE-NPO-10595] c10 N71-25917  
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 information  
 [NASA-CASE-NPO-12107] c08 N71-27255  
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 [NASA-CASE-XNP-01068] c10 N71-28739  
 Synchronized digital communication system  
 [NASA-CASE-XNP-03623] c09 N73-28084  
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 [NASA-CASE-XGS-04767] c08 N71-12494  
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 displaced data bearing signals  
 [NASA-CASE-XAC-04030] c10 N71-19472  
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 [NASA-CASE-XLA-07828] c08 N71-27057  
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 [NASA-CASE-GSC-10186] c08 N71-33110  
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 [NASA-CASE-NPO-11358] c07 N72-25172  
 Development and characteristics of data decoder  
 to process convolution encoded information  
 [NASA-CASE-NPO-11371] c08 N73-12177  
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 singles to show state of various indicators in  
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 [NASA-CASE-GSC-10975-1] c08 N73-13187  
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 [NASA-CASE-NPO-11456] c08 N73-26176  
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 out data related to distribution of occurrence  
 of plurality of events  
 [NASA-CASE-XNP-04067] c08 N71-22707  
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 for selective reprocessing and filtering of  
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- Recorder/processor apparatus --- for optical data processing  
[NASA-CASE-GSC-11553-1] c07 N74-15831
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- System for recording and reproducing PCM data from data stored on magnetic tape  
[NASA-CASE-XGS-01021] c08 N71-21042
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[NASA-CASE-XNP-04067] c08 N71-22707
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[NASA-CASE-XNP-02778] c08 N71-22710
- Transient video signal tape recorder with expanded playback  
[NASA-CASE-ARC-10003-1] c09 N71-25866
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[NASA-CASE-MSC-12363-1] c14 N73-26431
- Image data rate converter having a drum with a fixed head and a rotatable head  
[NASA-CASE-NPO-11659-1] c14 N74-11283
- Holography utilizing surface plasmon resonances  
[NASA-CASE-MPS-22040-1] c14 N74-26946
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- System for storing histogram data in optimum number of elements  
[NASA-CASE-XNP-09785] c08 N69-21928
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[NASA-CASE-XPR-08403] c05 N71-11202
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[NASA-CASE-XNP-08832] c08 N71-12506
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[NASA-CASE-NPO-10068] c08 N71-19288
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[NASA-CASE-XNP-04067] c08 N71-22707
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[NASA-CASE-NPO-10769] c08 N72-11171
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- Asynchronous, multiplexing, single line transmission and recovery data system --- for satellite use  
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[NASA-CASE-NPO-10140] c07 N71-24742
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[NASA-CASE-XGS-01983] c10 N70-41964
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[NASA-CASE-XNP-04162-1] c08 N70-34675
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[NASA-CASE-XLA-01832] c14 N71-21006
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[NASA-CASE-XNP-09225] c09 N69-24333
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## DEBRIS

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- Increasing available power per unit area in ion rocket engine by increasing beam density  
[NASA-CASE-XLE-00519] c28 N70-41576
- Varying density composite structure  
[NASA-CASE-LAR-11181-1] c39 N75-31479
- Method and apparatus for compensating reflection losses in a path length modulated absorption-absorption trace gas detector --- for determining density of gas  
[NASA-CASE-ARC-10631-1] c74 N76-20958
- DENSITY MEASUREMENT**
- Capacitor for measuring density of compressible fluid in liquid, gas, or liquid and gas phases  
[NASA-CASE-XLE-00143] c14 N70-36618
- Measuring density of single and two-phase cryogenic fluids in rocket fuel tanks  
[NASA-CASE-XLE-00688] c14 N70-41330
- Determining particle density using known material Hugoniot curves  
[NASA-CASE-LAR-11059-1] c76 N75-12810
- DENTISTRY**
- Process for preparing calcium phosphate salts for tooth repair  
[NASA-CASE-ERC-10338] c04 N72-33072
- DEPLOYMENT**
- Extendable, self-deploying boom apparatus  
[NASA-CASE-GSC-10566-1] c15 N72-18477
- Deployable cantilever support for deploying solar cell arrays aboard spacecraft and reducing transient loading  
[NASA-CASE-NPO-10883] c31 N72-22874
- DEPOSITION**
- Means and methods of depositing thin films on substrates  
[NASA-CASE-XNP-00595] c15 N70-34967
- Dual wavelength system for monitoring film deposition  
[NASA-CASE-MPS-20675] c26 N73-26751
- Production of pure metals  
[NASA-CASE-LEW-10906-1] c06 N74-30502
- Preparation of dielectric coatings of variable dielectric constant by plasma polymerization  
[NASA-CASE-ARC-10892-1] c27 N75-26136
- DESALINIZATION**
- Water purification process  
[NASA-CASE-ARC-10643-2] c51 N75-13506
- DESCENT**
- Emergency descent device  
[NASA-CASE-MPS-23074-1] c54 N76-13770
- DESIGN ANALYSIS**
- Airfoil shape for flight at subsonic speeds --- design analysis and aerodynamic characteristics of the GAW-1 airfoil  
[NASA-CASE-LAR-10585-1] c02 N76-22154
- Two dimensional wedge/translating shroud nozzle  
[NASA-CASE-LAR-11919-1] c07 N76-22202
- DETECTION**
- Heated element sensor for fluid flow detection in thermal conductive conduit with adaptive means to determine flow rate and direction  
[NASA-CASE-MSC-12084-1] c12 N71-17569
- Fluid leakage detection system with automatic monitoring capability  
[NASA-CASE-LAR-10323-1] c12 N71-17573
- Metal detection system with electromagnetic transmitter with single coil and receiver with single coil  
[NASA-CASE-ARC-10265-1] c10 N72-28240
- System for detecting impact position of cosmic dust on detector surface  
[NASA-CASE-GSC-11291-1] c25 N72-33696
- Detection of bacteria in biological fluids and foods  
[NASA-CASE-GSC-11533-1] c14 N73-13435
- Short range laser obstacle detector --- for surface vehicles using laser diode array  
[NASA-CASE-NPO-11856-1] c16 N74-15145
- Vacuum leak detector  
[NASA-CASE-LAR-11237-1] c35 N75-19612
- DETECTORS**
- Pressurized cell micrometeoroid detector  
[NASA-CASE-XLA-00936] c14 N71-14996
- Development of large area micrometeoroid impact detector panels  
[NASA-CASE-XLA-05906] c31 N71-16221
- Development of pulse-activated polarographic hydrogen detector  
[NASA-CASE-XMF-06531] c14 N71-17575
- Electro-optical detector for determining position of light source  
[NASA-CASE-XNP-01059] c23 N71-21821
- Method for locating leaks in hermetically sealed containers  
[NASA-CASE-ERC-10045] c15 N71-24910
- Precipitation detector and mechanism for stopping and restarting machinery at initiation and cessation of rain  
[NASA-CASE-XLA-02619] c10 N71-26334
- Hydrogen fire blink detector for high altitude rocket or ground installation  
[NASA-CASE-MPS-15063] c14 N72-25412
- Device for detection of combustion light preceding gaseous explosions  
[NASA-CASE-LAR-10739-1] c14 N73-16484
- Optical imaging system for increasing light absorption efficiency of imaging detector  
[NASA-CASE-ARC-10194-1] c23 N73-20741
- Cold cathode discharge tube with pressurized gas cell for meteoroid detection in space  
[NASA-CASE-LAR-10483-1] c14 N73-32327
- Deployable pressurized cell structure for a micrometeoroid detector  
[NASA-CASE-LAR-10295-1] c15 N74-21062
- Modulated hydrogen ion flame detector  
[NASA-CASE-ARC-10322-1] c35 N76-18403
- DETERGENTS**
- Anti-fog composition --- for prevention of fogging on surfaces such as space helmet visors and windshields  
[NASA-CASE-HSC-13530-2] c23 N75-14834
- DETONATION**
- Optically detonated explosive device  
[NASA-CASE-NPO-11743-1] c33 N74-27425
- DETONATION WAVES**
- Detonation reaction engine comprising outer housing enclosing pair of inner walls for continuous flow  
[NASA-CASE-XMF-06926] c28 N71-22983
- DEUTERIUM**
- Gas chromatographic method for analyzing hydrogen deuterium mixtures  
[NASA-CASE-NPO-11322] c06 N72-25146
- Deuterium pass through target --- neutron emitting target  
[NASA-CASE-LEW-11866-1] c72 N76-15860
- DIAGNOSIS**
- Apparatus for producing high purity I-123 --- for thyroid measurement  
[NASA-CASE-LEW-10518-3] c15 N74-10476
- DIAGRAMS**
- Phototransistor with base collector junction diode for integration into photo sensor arrays  
[NASA-CASE-MPS-20407] c09 N73-19235

## DIAMINES

- Preparation of elastomeric diamine silazane polymers  
 [NASA-CASE-XMF-04133] c06 N71-20717  
 Synthesis of aromatic diamines and dialdehyde polymers using Schiff base  
 [NASA-CASE-XMF-03074] c06 N71-24740  
 Synthesis of siloxane containing epoxide and diamine polymers  
 [NASA-CASE-MPS-13994-2] c06 N72-25148  
 Stable polyimide synthesis from mixtures of monomeric diamines and polycarboxylic acid esters  
 [NASA-CASE-LEW-11325-1] c06 N73-27980

## DIAMONDS

- Exponential horn, copper plate, magnetic hammer, and anvil in apparatus for making diamonds  
 [NASA-CASE-MPS-20698] c15 N72-20446  
 Simplified technique and device for producing industrial grade synthetic diamonds  
 [NASA-CASE-MPS-20698-2] c15 N73-19457

## DIAPHRAGMS (MECHANICS)

- Expulsion and measuring device for determining quantity of liquid in tank under conditions of weightlessness  
 [NASA-CASE-XMS-01546] c14 N70-40233  
 Reinforcing beam system for highly flexible diaphragms in valves or pressure switches  
 [NASA-CASE-XNP-01962] c32 N70-41370  
 Flexible rocket motor nozzle closure device to aid ignition and protect rocket chamber from foreign objects  
 [NASA-CASE-XLA-02651] c28 N70-41967  
 Knife structure for controlling rupture of shock tube diaphragms  
 [NASA-CASE-XAC-00731] c11 N71-15960  
 Magnetically opened diaphragm design with camera shutter and expansion tube applications  
 [NASA-CASE-XLA-03660] c15 N71-21060  
 Design and development of inertia diaphragm pressure transducer  
 [NASA-CASE-XAC-02981] c14 N71-21072  
 Punch and die device for forming convolution series in thin gage metal hemispheres  
 [NASA-CASE-XNP-05297] c15 N71-23811  
 Rubber composition for expulsion bladders and diaphragms for use with hydrazine  
 [NASA-CASE-NPO-11433] c18 N71-31140  
 Development of differential pressure control system using motion of mechanical diaphragms to operate electric switch  
 [NASA-CASE-MPS-14216] c14 N73-13418

## DIATOMIC GASES

- Diatomic infrared gasdynamic laser --- for producing different wavelengths  
 [NASA-CASE-ARC-10370-1] c36 N75-31426

## DICHROISM

- Dichroic plate --- as bandpass filters  
 [NASA-CASE-NPO-13506-1] c35 N76-15435

## DIELECTRIC PROPERTIES

- Capacitive tank gaging device for monitoring one constituent of two phase fluid by sensing dielectric constant  
 [NASA-CASE-MPS-21629] c14 N72-22442  
 Fine particulate capture device  
 [NASA-CASE-LEW-11583-1] c15 N74-13199

## DIELECTRICS

- Fabricating solar cells with dielectric layers to improve glass fusion  
 [NASA-CASE-XGS-04531] c03 N69-24267  
 Temperature sensitive capacitor device for detecting very low intensity infrared radiation  
 [NASA-CASE-XNP-09750] c14 N69-39937  
 Electrical power system for space flight vehicles operating over extended periods  
 [NASA-CASE-XNP-00517] c03 N70-34157  
 Nose cone mounted heat resistant antenna comprising plurality of adjacent layers of silica not introducing paths of high thermal conductivity through ablative shield  
 [NASA-CASE-XMS-04312] c07 N71-22984  
 Broadband microwave waveguide window to compensate dielectric material filling  
 [NASA-CASE-XNP-08880] c09 N71-24808  
 Laser machining device with dielectric functioning as beam waveguide for mechanical and medical applications  
 [NASA-CASE-BQN-10541-2] c15 N71-27135

- Quasi-optical microwave circuit with dielectric body for use with oversize waveguides  
 [NASA-CASE-ERC-10011] c07 N71-29065  
 Semiconductor device manufacture using refractory dielectrics as diffusant masks and interconnection insulating materials  
 [NASA-CASE-XER-08476-1] c26 N72-17820  
 Material compositions and processes for developing dielectric thick films used in microcircuit capacitors  
 [NASA-CASE-LAR-10294-1] c26 N72-28762  
 Low loss dichroic plate  
 [NASA-CASE-NPO-13171-1] c07 N74-11000  
 Electrostatic measurement system --- for contact-electrifying a dielectric  
 [NASA-CASE-MPS-22129-1] c33 N75-18477  
 Preparation of dielectric coatings of variable dielectric constant by plasma polymerization  
 [NASA-CASE-ARC-10892-1] c27 N75-26136  
 Method and apparatus for measurement of trap density and energy distribution in dielectric films  
 [NASA-CASE-NPO-13443-1] c76 N76-20994  
 Charge injection method and apparatus of producing large area electrets  
 [NASA-CASE-MPS-23186-1] c33 N76-23483

## DIES

- Punch and die device for forming convolution series in thin gage metal hemispheres  
 [NASA-CASE-XNP-05297] c15 N71-23811  
 Development and characteristics of frusto-conical die nib for extrusion of refractory metals  
 [NASA-CASE-XLE-06773] c15 N71-23817

## DIETS

- Reduction of blood serum cholesterol  
 [NASA-CASE-NPO-12119-1] c52 N75-15270

## DIFFERENTIAL AMPLIFIERS

- Temperature compensated solid state differential amplifier with application in bioinstrumentation circuits  
 [NASA-CASE-XAC-00435] c09 N70-35440  
 Stepping motor control apparatus exciting windings in proper time sequence to cause motor to rotate in either direction  
 [NASA-CASE-GSC-10366-1] c10 N71-18772

## DIFFERENTIAL INTERFEROMETRY

- Device for determining acceleration of gravity by interferometric measurement of travel of falling body  
 [NASA-CASE-XMF-05844] c14 N71-17587

## DIFFERENTIAL PRESSURE

- Relief valve to permit slow and fast bleeding rates at difference pressure levels  
 [NASA-CASE-XMS-05894-1] c15 N69-21924  
 Apparatus for ejecting covers of instrument packages using differential pressure principle  
 [NASA-CASE-XMF-04132] c15 N69-27502

## DIFFRACTION

- Highly stable optical mirror assembly optimizing image quality of light diffraction patterns  
 [NASA-CASE-ERC-10001] c23 N71-24868

## DIFFRACTION PATTERNS

- Digital sensor for counting fringes produced by interferometers with improved sensitivity and one photomultiplier tube to eliminate alignment problem  
 [NASA-CASE-LAR-10204] c14 N71-27215

## DIFFRACTOMETERS

- Dual purpose optical instrument capable of simultaneously acting as spectrometer and diffractometer  
 [NASA-CASE-XNP-05231] c14 N73-28491

## DIFFUSERS

- Transmitting and reflecting diffuser  
 [NASA-CASE-LAR-10385-3] c23 N73-32538

## DIFFUSION

- Selective gold diffusion on monolithic silicon chips for switching and nonswitching amplifier devices and circuits and linear and digital logic circuits  
 [NASA-CASE-ERC-10072] c09 N70-11148  
 Metallic film diffusion for boundary lubrication in aerospace engineering  
 [NASA-CASE-XLE-10337] c15 N71-24046  
 Transmitting and reflecting diffuser --- for ultraviolet light  
 [NASA-CASE-LAR-10385-2] c23 N74-13436

## DIFFUSION PUMPS

- Oil trap for preventing diffusion pump backstreaming into evacuated system  
[NASA-CASE-GSC-10518-1] c15 N72-22489
- Programmable physiological infusion  
[NASA-CASE-ARC-10447-1] c05 N74-22771

## DIFFUSION WELDING

- Method for diffusion welding dissimilar metals in vacuum chamber  
[NASA-CASE-GSC-10303] c15 N72-22487
- Reinforced PEP Teflon composite material diffusion bonded to metal substrate  
[NASA-CASE-MPS-20482] c15 N72-22492
- Two-step diffusion welding process of unrecrystallized alloys  
[NASA-CASE-LBW-11388-1] c15 N73-32358
- Method of fluxless brazing and diffusion bonding of aluminum containing components  
[NASA-CASE-MSC-14435-1] c37 N76-18455

## DIGITAL COMMAND SYSTEMS

- Digitally controlled frequency synthesizer for pulse frequency modulation telemetry systems  
[NASA-CASE-XGS-02317] c09 N71-23525
- System for maintaining motor at predetermined speed using digital pulses  
[NASA-CASE-XNP-06892] c09 N71-24805
- Digital filter for reducing jitter in digital control systems  
[NASA-CASE-NPO-11088] c08 N71-29034

## DIGITAL COMPUTERS

- Device for removing plastic dust cover from digital computer disk packs for inspection and cleaning  
[NASA-CASE-LAR-10590-1] c15 N70-26819
  - Binary number sorter for arranging numbers in order of magnitude  
[NASA-CASE-NPO-10112] c08 N71-12502
  - Binary sequence detector with few memory elements and minimized logic circuit complexity  
[NASA-CASE-XNP-05415] c08 N71-12505
  - Digital computer system for automatic prelaunch checkout of spacecraft  
[NASA-CASE-XKS-08012-2] c31 N71-15566
  - Description of error correcting methods for use with digital data computers and apparatus for encoding and decoding digital data  
[NASA-CASE-XNP-02748] c08 N71-22749
  - Serial digital decoder design with square circuit matrix and serial memory storage units  
[NASA-CASE-NPO-10150] c08 N71-124650
  - Digital magnetic core memory with sensing amplifier circuits  
[NASA-CASE-XNP-01012] c08 N71-28925
  - Redundant memory for enhanced reliability of digital data processing system  
[NASA-CASE-GSC-10564] c10 N71-29135
  - Digital converter for scaling binary number to binary coded decimal number of higher multiple  
[NASA-CASE-KSC-10595] c08 N73-12176
  - Fault tolerant clock apparatus utilizing a controlled minority of clock elements  
[NASA-CASE-MSC-12531-1] c35 N75-30504
  - Two-dimensional radiant energy array computers and computing devices  
[NASA-CASE-GSC-11839-2] c60 N76-18803
  - Two-dimensional radiant energy array computers and computing devices --- analog to digital converters  
[NASA-CASE-GSC-11839-3] c60 N76-18804
- DIGITAL DATA**
- Phase shift data transmission system with pseudo-noise synchronization code modulated with digital data into single channel for spacecraft communication  
[NASA-CASE-XNP-00911] c08 N70-41961
  - Tape guidance system for multichannel digital recording system  
[NASA-CASE-XNP-09453] c08 N71-19420
  - Digital telemetry system apparatus to reduce tape recorder wow and flutter noise during playback  
[NASA-CASE-XGS-01812] c07 N71-23001
  - Digital data handling circuits for pulse amplifiers  
[NASA-CASE-XNP-01068] c10 N71-28739
  - Bit synchronization system using digital data transition tracking phased locked loop  
[NASA-CASE-NPO-10844] c07 N72-20140

- Control and information system for digital telemetry data using analog converter to digitize sensed parameter values  
[NASA-CASE-NPO-11016] c08 N72-31226
- Development and characteristics for automatically displaying digits in any desired order using optical techniques  
[NASA-CASE-XKS-00348] c09 N73-14215
- Digital plus analog output encoder  
[NASA-CASE-GSC-12115-1] c62 N76-31946

## DIGITAL FILTERS

- Design and development of signal detection and tracking apparatus  
[NASA-CASE-XGS-03502] c10 N71-20852
- Digital filter for reducing jitter in digital control systems  
[NASA-CASE-NPO-11088] c08 N71-29034
- Nonrecursive counting digital filter containing shift register  
[NASA-CASE-NPO-11821-1] c08 N73-26175
- Filtering device --- removing electromagnetic noise from voice communication signals  
[NASA-CASE-MPS-22729-1] c32 N76-21366

## DIGITAL SPACECRAFT TELEVISION

- TV camera output signal control system for digital spacecraft communication  
[NASA-CASE-XNP-01472] c14 N70-41807

## DIGITAL SYSTEMS

- Light sensitive digital aspect sensor for attitude control of earth satellites or space probes  
[NASA-CASE-XGS-00359] c14 N70-34158
  - Circuit diagram and operation of full binary adder  
[NASA-CASE-XGS-00689] c08 N70-34787
  - Digital telemetry system apparatus to reduce tape recorder wow and flutter noise during playback  
[NASA-CASE-XGS-01812] c07 N71-23001
  - Reliable magnetic core circuit apparatus with application in selection matrices for digital memories  
[NASA-CASE-XNP-01318] c10 N71-23033
  - Noninterruptable digital counter circuit design with display device for pulse frequency modulation  
[NASA-CASE-XNP-09759] c08 N71-24891
  - Digital memory system with multiple switch cores for driving each word location  
[NASA-CASE-XNP-01466] c10 N71-26434
  - Digital quasi-exponential function generator  
[NASA-CASE-NPO-11130] c08 N72-20176
  - Digital function generator for generating any arbitrary single valued function  
[NASA-CASE-NPO-11104] c08 N72-22165
  - Digital video system for displaying image and alphanumeric data on cathode ray tube  
[NASA-CASE-NPO-11342] c09 N72-25248
  - Data compression using decreasing slope threshold test and digital techniques  
[NASA-CASE-NPO-11630] c08 N72-33172
  - Characteristics of digital data processor using pulse from clock source to derive binary singles to show state of various indicators in processor  
[NASA-CASE-GSC-10975-1] c08 N73-13187
  - Low phase noise frequency divider for use with deep space network communication system  
[NASA-CASE-NPO-11569] c10 N73-26229
  - Synchronized digital communication system  
[NASA-CASE-XNP-03623] c09 N73-28084
  - Digital second-order phase-locked loop  
[NASA-CASE-NPO-11905-1] c08 N74-12887
  - Digital controller for a Baum folding machine --- providing automatic counting and machine shutoff  
[NASA-CASE-LAR-10688-1] c15 N74-21056
  - Digital transmitter for data bus communications system  
[NASA-CASE-MSC-14558-1] c32 N75-21486
  - Open loop digital frequency multiplier  
[NASA-CASE-MSC-12709-1] c33 N76-13377
  - Automatic character skew and spacing checking network --- of digital tape drive systems  
[NASA-CASE-GSC-11925-1] c33 N76-18353
  - Multiple rate digital command detection system with range clean-up capability  
[NASA-CASE-NPO-13753-1] c61 N76-18826
- DIGITAL TECHNIQUES**
- Describing frequency discriminator using digital

- logic circuits and supplying single binary output signal  
[NASA-CASE-MFS-14322] c08 N71-18692
- Constructing Exclusive-Or digital logic circuit in single module  
[NASA-CASE-XLA-07732] c08 N71-18751
- Horizon sensor design with digital sampling of spaced radiation-compensated thermopile infrared detectors  
[NASA-CASE-XNP-06957] c14 N71-21088
- Digital cardiometer incorporating circuit for measuring heartbeat rate of subject over predetermined portion of one minute also converting rate to beats per minute  
[NASA-CASE-XMS-02399] c05 N71-22896
- Digital synchronizer for extracting binary data in receiver of PSK/PCM communication system  
[NASA-CASE-NPO-10851] c07 N71-24613
- Digital sensor for counting fringes produced by interferometers with improved sensitivity and one photomultiplier tube to eliminate alignment problem  
[NASA-CASE-LAR-10204] c14 N71-27215
- Development and characteristics for automatically displaying digits in any desired order using optical techniques  
[NASA-CASE-XKS-00348] c09 N73-14215
- Apparatus and digital technique for coding rate data  
[NASA-CASE-LAR-10128-1] c08 N73-20217
- Digital communication system  
[NASA-CASE-MSC-13912-1] c07 N74-30524
- Digital phase-locked loop  
[NASA-CASE-GSC-11623-1] c33 N75-25040
- DIGITAL TO ANALOG CONVERTERS**
- Development and characteristics of rate augmented digital to analog converter for computed time-dependent data  
[NASA-CASE-XLA-07828] c08 N71-27057
- Digital to analog converter with parallel input/output memory device  
[NASA-CASE-KSC-10397] c08 N72-25206
- Digital to analog converter for sampled signal reconstruction  
[NASA-CASE-MSC-12458-1] c08 N73-32081
- DIGITAL TRANSDUCERS**
- Digital to analog converter for sampled signal reconstruction  
[NASA-CASE-MSC-12458-1] c08 N73-32081
- DIISOCYANATES**
- Chemical and physical properties of synthetic polyurethane polymer prepared by reacting hydroxy carbonate with organic diisocyanate  
[NASA-CASE-MFS-10512] c06 N73-30099
- Preparation of stable polyurethane polymer by reacting polymer with diisocyanate  
[NASA-CASE-MFS-10506] c06 N73-30100
- Preparation of polyurethane polymer by reacting hydroxy polyformal with organic diisocyanate  
[NASA-CASE-MFS-10509] c06 N73-30103
- DIMENSIONS**
- Projection system for display of parallax and perspective  
[NASA-CASE-MFS-23194-1] c74 N76-13909
- DIODES**
- Single electrical circuit component combining diode, fuse, and blown indicator with elongated tube of heat resistant transparent material  
[NASA-CASE-XKS-03381] c09 N71-22796
- Maintaining current flow through solar cells with open connection using shunting diode  
[NASA-CASE-XLE-04535] c03 N71-23354
- Gunn effect microwave diodes with RF shielding  
[NASA-CASE-ERC-10119] c26 N72-21701
- Transistorized switching logic circuits with tunnel diodes  
[NASA-CASE-GSC-10878-1] c10 N72-22236
- Development of method and apparatus for detecting surface ions on silicon diodes and transistors  
[NASA-CASE-ERC-10325] c15 N72-25457
- Development of temperature compensated light source with components and circuitry for maintaining luminous intensity independent of temperature variations  
[NASA-CASE-ARC-10467-1] c09 N73-14214
- Silicon carbide backward diode with coated lead attachment  
[NASA-CASE-ERC-10224-2] c09 N73-27150
- Diode-quad bridge circuit means  
[NASA-CASE-ARC-10364-2(B)] c09 N74-14941
- High isolation RF signal selection switches  
[NASA-CASE-NPO-13081-1] c07 N74-22814
- Electronic analog divider  
[NASA-CASE-LEW-11881-1] c33 N75-28316
- DIPOLE ANTENNAS**
- Circularly polarized antenna with linearly polarized pair of elements  
[NASA-CASE-ERC-10214] c09 N72-31235
- DIRECT CURRENT**
- Regulated dc to dc converter  
[NASA-CASE-XGS-03429] c03 N69-21330
- Automatic control of voltage supply to direct current motor  
[NASA-CASE-XMS-04215-1] c09 N69-39987
- Thermionic diode switch for use in high temperature region to chop current from dc source  
[NASA-CASE-NPO-10404] c03 N71-12255
- Transistorized dc-coupled multivibrator with noninverted output signal  
[NASA-CASE-XNP-09450] c10 N71-18723
- Stepping motor control apparatus exciting windings in proper time sequence to cause motor to rotate in either direction  
[NASA-CASE-GSC-10366-1] c10 N71-18772
- Frequency control network for current feedback oscillators converting dc voltage to ac or higher dc voltages  
[NASA-CASE-GSC-10041-1] c10 N71-19418
- Direct current powered self repeating plasma accelerator with interconnected annular and linear discharge channels  
[NASA-CASE-XLA-03103] c25 N71-21693
- Conversion of positive dc voltage to positive dc voltage of lower amplitude  
[NASA-CASE-XMF-14301] c09 N71-23188
- Converting output of positive dc voltage source to negative dc voltage across load with common reference point  
[NASA-CASE-XMF-08217] c03 N71-23239
- Blood pressure measuring system for separately recording dc and ac pressure signals of Korotkoff sounds  
[NASA-CASE-XMS-06061] c05 N71-23317
- Radio frequency coaxial filter to provide dc isolation and low frequency signal rejection in audio range  
[NASA-CASE-XGS-01418] c09 N71-23573
- Brushless dc tachometer design with Hall effect crystals and output voltage magnitude proportional to rotor speed  
[NASA-CASE-MFS-20385] c09 N71-24904
- Inverters for changing direct current to alternating current  
[NASA-CASE-XGS-06226] c10 N71-25950
- Circuits for controlling reversible dc motor  
[NASA-CASE-XNP-07477] c09 N71-26092
- Feedback control for direct current motor to achieve constant speed under varying loads  
[NASA-CASE-MFS-14610] c09 N71-28886
- High dc switch for causing abrupt, cyclic, decreases of current to operate under zero or varying gravity conditions  
[NASA-CASE-LEW-10155-1] c09 N71-29035
- Power converters for supplying direct current at one voltage from source at another voltage  
[NASA-CASE-XER-11046] c09 N72-22203
- Dc to ac to dc converter with transistor driven synchronous rectifiers  
[NASA-CASE-GSC-11126-1] c09 N72-25253
- Direct current motor including stationary field windings and stationary armature winding  
[NASA-CASE-XGS-07805] c15 N72-33476
- Powerplexer for distribution of dc power levels to loads which require different voltages  
[NASA-CASE-MSC-12396-1] c03 N73-31988
- Bio-isolated dc operational amplifier --- for bioelectric measurements  
[NASA-CASE-ARC-10596-1] c09 N74-21851
- Load insensitive electrical device --- power converters for supplying direct current at one voltage from a source at another voltage  
[NASA-CASE-XER-11046-2] c09 N74-22864
- DIRECT POWER GENERATORS**
- Direct conversion of thermal energy into electrical energy using crossed electric and

- magnetic fields  
[NASA-CASE-XLE-00212] c03 N70-34134
- Thermal pump-compressor for converting solar energy  
[NASA-CASE-XLA-00377] c33 N71-17610
- Converting output of positive dc voltage source to negative dc voltage across load with common reference point  
[NASA-CASE-XMP-08217] c03 N71-23239
- Unsaturating magnetic core transformer design with warning signal for electrical power processing equipment  
[NASA-CASE-ERC-10125] c09 N71-24893
- Load insensitive electrical device --- power converters for supplying direct current at one voltage from a source at another voltage  
[NASA-CASE-XER-11046-2] c09 N74-22864
- DIRECTIONAL ANTENNAS**
- Mechanical coordinate converter for use with spacecraft tracking antennas  
[NASA-CASE-XNP-00614] c14 N70-36907
- Weatherproof helix antenna  
[NASA-CASE-XKS-08485] c07 N71-19493
- Tracking antenna system with array for synchronous satellite or ground based radar  
[NASA-CASE-GSC-10553-1] c07 N71-19854
- Drive system for parabolic tracking antenna with reversible motion and minimal backlash  
[NASA-CASE-NPO-10173] c15 N71-24696
- Variable beamwidth antenna --- with multiple beam, variable feed system  
[NASA-CASE-GSC-11862-1] c32 N76-18295
- DIRECTIONAL CONTROL**
- Gimbaled partially submerged nozzle for solid propellant rocket engines for providing directional control  
[NASA-CASE-XMP-01544] c28 N70-34162
- Omnidirectional wheel  
[NASA-CASE-MFS-21309-1] c15 N74-18125
- DIRECTIONAL STABILITY**
- Nose gear steering system for vehicles with main skids to provide directional stability after loss of aerodynamic control  
[NASA-CASE-XLA-01804] c02 N70-34160
- System for imposing directional stability on a rocket-propelled vehicle  
[NASA-CASE-MFS-21311-1] c20 N76-21275
- DISCONNECT DEVICES**
- Patent data on gas actuated bolt disconnect assembly  
[NASA-CASE-XLA-00326] c03 N70-34667
- Remotely actuated quick disconnect mechanism for umbilical cables  
[NASA-CASE-XLA-00711] c03 N71-12258
- Remotely actuated quick disconnect for tubular umbilical conduits used to transfer fluids from ground to rocket vehicle  
[NASA-CASE-XLA-01396] c03 N71-12259
- Design and development of quick release connector  
[NASA-CASE-XLA-01141] c15 N71-13789
- Split nut and bolt separation device  
[NASA-CASE-XNP-06914] c15 N71-21489
- Electrical circuit selection device for simulating stage separation of flight vehicle  
[NASA-CASE-XKS-04631] c10 N71-23663
- Quick disconnect duct coupling device for single-handed operation  
[NASA-CASE-MFS-20395] c15 N71-24903
- Breakaway multiwire electrical cable connector with particular application for umbilical type cables  
[NASA-CASE-NPO-11140] c15 N72-17455
- Torsional disconnect device for releasably coupling distal ends of fluid conduits  
[NASA-CASE-NPO-10704] c15 N72-20445
- Frangible connecting link suitable for rocket stage separation  
[NASA-CASE-MSC-11849-1] c15 N72-22488
- Gas operated quick disconnect coupling for umbilical connectors  
[NASA-CASE-NPO-11202] c15 N72-25450
- Quick disconnect filter coupling  
[NASA-CASE-MFS-22323-1] c37 N76-14463
- DISCONTINUITY**
- Servocontrol system for measuring local stresses at geometric discontinuity in stressed material  
[NASA-CASE-XLA-08530] c32 N71-25360
- DISCRIMINATORS**
- Detector assembly for discriminating first signal with respect to presence or absence of second signal at time of occurrence of first signal  
[NASA-CASE-XMP-00701] c09 N70-40272
- Difference indicating circuit used in conjunction with device measuring gravitational fields  
[NASA-CASE-XNP-08274] c10 N71-13537
- Describing frequency discriminator using digital logic circuits and supplying single binary output signal  
[NASA-CASE-MFS-14322] c08 N71-18692
- Circuit design for determining amount of photomultiplier tube light detection utilizing variable current source and dark current signals of opposite polarity  
[NASA-CASE-XMS-03478] c14 N71-21040
- Characteristics of comparator circuits for comparison of binary numbers in information processing system  
[NASA-CASE-XNP-04819] c08 N71-23295
- Diode-quad bridge circuit means  
[NASA-CASE-ARC-10364-3] c33 N75-19520
- Diode-quad bridge circuit means  
[NASA-CASE-ARC-10364-2] c33 N75-25041
- DISPENSERS**
- Liquid aerosol dispenser with explosively driven piston to compress light gas to extremely high pressure  
[NASA-CASE-MFS-20829] c12 N72-21310
- Potable water dispenser  
[NASA-CASE-MFS-21115-1] c05 N74-12779
- Lyophilized spore dispenser  
[NASA-CASE-LAR-10544-1] c15 N74-13178
- Metering gun for dispensing precisely measured charges of fluid  
[NASA-CASE-MFS-21163-1] c05 N74-17853
- Automatic fluid dispenser  
[NASA-CASE-ARC-10820-1] c54 N75-32766
- DISPERSING**
- Apparatus for mechanically dispersing ultrafine metal powders subjected to shock waves  
[NASA-CASE-XLE-04946] c17 N71-24911
- DISPERSIONS**
- Method for producing alkali metal dispersions of high purity  
[NASA-CASE-XNP-08876] c17 N73-28573
- Apparatus for measuring a sorbate dispersed in a fluid stream  
[NASA-CASE-ARC-10896-1] c34 N75-32389
- DISPLACEMENT**
- Bi-metallic fluid displacement apparatus --- for stirring and heating stored gases and liquids  
[NASA-CASE-ARC-10441-1] c15 N74-15126
- DISPLACEMENT MEASUREMENT**
- Null-type vacuum microbalance for measuring minute mechanical displacements  
[NASA-CASE-XAC-00472] c15 N70-40180
- Development and characteristics of self-calibrating displacement transducer for measuring magnitude and frequency of displacement of bodies  
[NASA-CASE-XLA-00781] c09 N71-22999
- Gas bearing for model support with capacity for measuring angular displacement of model in bearing  
[NASA-CASE-XLA-09346] c15 N71-28740
- Method and apparatus for remote measurement of displacement of marks on specimen undergoing tensile test  
[NASA-CASE-NPO-10778] c14 N72-11364
- Miniature muscle displacement transducer  
[NASA-CASE-NPO-13519-1] c33 N76-19338
- DISPLAY DEVICES**
- Integrated time shared instrumentation display for aerospace vehicle simulators  
[NASA-CASE-XLA-01952] c08 N71-12507
- Data processing and display system for terminal guidance of X-15 aircraft  
[NASA-CASE-XPR-00756] c02 N71-13421
- Fluidic-thermochromic display device  
[NASA-CASE-ERC-10031] c12 N71-18603
- Cathode ray tube system for displaying ones and zeros in binary wave train  
[NASA-CASE-XGS-04987] c08 N71-20571
- Optical projector system for establishing optimum arrangement of instrument displays in aircraft, spacecraft, other vehicles, and industrial instrument consoles

- [NASA-CASE-XNP-03853] c23 N71-21882  
Optical monitor panel consisting of translucent screen with test or meter information projected onto it from rear for application in control rooms of missile launching and tracking stations  
[NASA-CASE-XKS-03509] c14 N71-23175  
Binary to decimal decoder logic circuit design with feedback control and display device  
[NASA-CASE-XKS-06167] c08 N71-24890  
Noninterruptable digital counter circuit design with display device for pulse frequency modulation  
[NASA-CASE-XNP-09759] c08 N71-24891  
Data acquisition system for converting displayed analog signal to digital values  
[NASA-CASE-NPO-10344] c10 N71-26544  
Plasma-fluidic hybrid display system combining high brightness and memory characteristics  
[NASA-CASE-ERC-10100] c09 N71-33519  
System for digitizing graphic displays  
[NASA-CASE-NPO-10745] c08 N72-22164  
Digital video system for displaying image and alphanumeric data on cathode ray tube  
[NASA-CASE-NPO-11342] c09 N72-25248  
Development of apparatus for mounting scientific experiments in spacecraft to permit utilization without maneuvering spacecraft  
[NASA-CASE-MSC-12372-1] c31 N72-25842  
Development and characteristics for automatically displaying digits in any desired order using optical techniques  
[NASA-CASE-XKS-00348] c09 N73-14215  
Situational display system of cathode ray tubes to assist pilot in aircraft control  
[NASA-CASE-ERC-10350] c14 N73-20474  
Device for displaying and recording angled views of samples to be viewed by microscope  
[NASA-CASE-GSC-11690-1] c14 N73-28499  
Transparent switchboard which permits optical display devices to be adapted for use in man machine communications  
[NASA-CASE-MSC-13746-1] c10 N73-32143  
Recorder/processor apparatus --- for optical data processing  
[NASA-CASE-GSC-11553-1] c07 N74-15831  
Rotating raster generator  
[NASA-CASE-PRC-10071-1] c07 N74-20813  
G-load measuring and indicator apparatus --- for aircraft  
[NASA-CASE-ARC-10806] c14 N74-27872  
Field sequential stereo television  
[NASA-CASE-MSC-12616-1] c07 N74-32601  
X-Y alphanumeric character generator for oscilloscopes  
[NASA-CASE-GSC-11582-1] c33 N75-19517  
Binocular attachment --- for display of numerical information in the field of view of the binoculars  
[NASA-CASE-LAR-11782-1] c35 N75-30516  
Pull color hybrid display for aircraft simulators  
[NASA-CASE-ARC-10903-1] c09 N76-10148  
Projection system for display of parallax and perspective  
[NASA-CASE-MPS-23194-1] c74 N76-13909  
Turbulence intensity indicator  
[NASA-CASE-LAR-11833-1] c06 N76-31229
- DISSIPATION**  
Dissipative voltage regulator system for minimizing heat dissipation  
[NASA-CASE-GSC-10891-1] c10 N71-26626
- DISSOLVING**  
Apparatus for mixing two or more liquids under zero gravity conditions  
[NASA-CASE-LAR-10195-1] c15 N73-19458
- DISTANCE MEASURING EQUIPMENT**  
Binary coded sequential acquisition ranging system for distance measurements  
[NASA-CASE-NPO-11194] c08 N72-25209  
Apparatus for determining distance to lighting strokes from single station by magnetic and electric field sensing antennas  
[NASA-CASE-KSC-10698] c07 N73-20175
- DISTILLATION EQUIPMENT**  
Utilization of solar radiation by solar still for converting salt and brackish water into potable water  
[NASA-CASE-XMS-04533] c15 N71-23086
- Purification apparatus for vaporization and fractional distillation of liquids  
[NASA-CASE-XNP-08124] c15 N71-27184  
U shaped heated tube for distillation and purification of liquid metals  
[NASA-CASE-XNP-08124-2] c06 N73-13129
- DISTRIBUTED AMPLIFIERS**  
Broadband distribution amplifier with complementary pair transistor output stages  
[NASA-CASE-NPO-10003] c10 N71-26415
- DISTRIBUTORS**  
High voltage distributor  
[NASA-CASE-GSC-11849-1] c33 N76-16332
- DIVERGENT NOZZLES**  
Jet exhaust noise suppressor  
[NASA-CASE-LEW-11286-1] c02 N74-27490
- DIVIDERS**  
A synchronous binary array divider  
[NASA-CASE-ERC-10180-1] c08 N74-20836
- DOCUMENT STORAGE**  
Describing device for flagging punched business cards  
[NASA-CASE-XLA-02705] c08 N71-15908
- DOORS**  
Design and specifications of emergency escape system for spacecraft structures  
[NASA-CASE-MSC-12086-1] c05 N71-12345
- DOPPLER EFFECT**  
Doppler frequency shift correction device for multiplex communication with Applications Technology Satellites  
[NASA-CASE-IGS-02749] c07 N69-39978  
Describing laser Doppler velocimeter for measuring mean velocity and turbulence of fluid flow  
[NASA-CASE-MPS-20386] c21 N71-19212  
Doppler compensated communication system for locating supersonic transport position  
[NASA-CASE-GSC-10087-4] c07 N73-20174  
Doppler shift system --- system for measuring velocities of radiating particles  
[NASA-CASE-HQN-10740-1] c24 N74-19310
- DOPPLER RADAR**  
Cooperative Doppler radar system for avoiding midair collisions  
[NASA-CASE-LAR-10403] c21 N71-11766
- DOSIMETERS**  
Development of dosimeter for measuring absorbed dose of high energy ionizing radiation  
[NASA-CASE-XLA-03645] c14 N71-20430
- DRAG CHUTES**  
Deployment system for flexible wing with rigid superstructure  
[NASA-CASE-XLA-01220] c02 N70-41863  
Lightweight, variable solidity knitted parachute fabric --- for aerodynamic decelerators  
[NASA-CASE-LAR-10776-1] c02 N74-10034
- DRAG MEASUREMENT**  
Device for measuring drag forces in flight tests  
[NASA-CASE-XLA-00113] c14 N70-33386  
Electric analog for measuring induced drag on nonplanar airfoils  
[NASA-CASE-XLA-00755] c01 N71-13410  
Electric analog for measuring induced drag on nonplanar airfoils  
[NASA-CASE-XLA-05828] c01 N71-13411  
Impact energy absorber with decreasing absorption rate  
[NASA-CASE-XLA-01530] c14 N71-23092
- DRAG REDUCTION**  
Directed fluid stream for propeller blade loading control  
[NASA-CASE-XAC-00139] c02 N70-34856  
Aircraft wheel spray drag alleviator for dual tandem landing gear  
[NASA-CASE-XLA-01583] c02 N70-36825
- DRIFT (INSTRUMENTATION)**  
Automatic measuring and recording of gain and zero drift characteristics of electronic amplifier  
[NASA-CASE-XMS-05562-1] c09 N69-39986  
Solar radiation direction detector and device for compensating degradation of photocells  
[NASA-CASE-XLA-00183] c14 N70-40239  
Failure detection and control means for improved drift performance of a gimbal platform system  
[NASA-CASE-MPS-23551-1] c04 N76-26175
- DRILL BITS**  
Impact bit for cutting, collecting, and storing



samples such as lunar rock cuttings  
[NASA-CASE-INP-01412] c15 N70-42034  
Hole cutter --- drill bits and rotating shaft  
[NASA-CASE-NFS-22649-1] c37 N75-25186

**DRILLS**  
Rotary impact-type rock drill for recovering  
rock cuttings  
[NASA-CASE-INP-07478] c14 N69-21923  
Auger-type soil penetrometer for burrowing into  
soil formations  
[NASA-CASE-INP-05530] c14 N73-32321

**DRIVES**  
Inverter drive circuit for semiconductor switch  
[NASA-CASE-LEW-10233] c10 N71-27126

**DROPS (LIQUIDS)**  
Development of droplet monitoring probe for use  
in analysis of droplet propagation in  
mixed-phase fluid stream  
[NASA-CASE-NPO-10985] c14 N73-20478

**DRUGS**  
Automated analysis of oxidative metabolites  
[NASA-CASE-ARC-10469-1] c25 N75-12086

**DRY CELLS**  
Energy source with tantalum capacitors in  
parallel and miniature silver oxide button  
cells for initiating pyrotechnic devices on  
spacecraft and rocket vehicles.  
[NASA-CASE-LAR-10367-1] c03 N70-26817

**DRYING**  
Drying chamber for photographic sheet material  
[NASA-CASE-GSC-11074-1] c14 N73-28489

**DRYING APPARATUS**  
Gas purged dry box glove reducing permeation of  
air or moisture into dry box or isolator by  
diffusion through glove  
[NASA-CASE-XLE-02531] c05 N71-23080

**DUCTS**  
Quick disconnect duct coupling device for  
single-handed operation  
[NASA-CASE-MFS-20395] c15 N71-24903  
Externally supported internally stabilized  
flexible duct joint  
[NASA-CASE-MFS-19194-1] c37 N76-14460

**DUST COLLECTORS**  
Device for removing plastic dust cover from  
digital computer disk packs for inspection and  
cleaning  
[NASA-CASE-LAR-10590-1] c15 N70-26819

**DYE LASERS**  
Infrared tunable dye laser with nonlinear  
wavelength mixing crystal in optical cavity  
[NASA-CASE-ARC-10463-1] c09 N73-32111  
Laser head for simultaneous optical pumping of  
several dye lasers --- with single flash lamp  
[NASA-CASE-LAR-11341-1] c36 N75-19655

**DYES**  
Dye penetrant and technique for nondestructive  
tests of solid surfaces contacted by liquid  
oxygen  
[NASA-CASE-XMF-02221] c18 N71-27170

**DYNAMIC CHARACTERISTICS**  
Dynamic sensor for gas pressure or density  
measurement  
[NASA-CASE-XAC-02877] c14 N70-41681  
Design of precision vertical alignment system  
using laser with gravitationally sensitive  
cavity  
[NASA-CASE-ARC-10444-1] c16 N73-33397

**DYNAMIC CONTROL**  
Motion restraining device --- for dissipating at  
a controlled rate the force of a moving body  
[NASA-CASE-NPO-13619-1] c37 N75-22748

**DYNAMIC LOADS**  
Multilegged support system for wind tunnel test  
models subjected to thermal dynamic loading  
[NASA-CASE-XLA-01326] c11 N71-21481  
Apparatus for measuring load on cable under  
static or dynamic conditions comprising  
pulleys pivoting structure against restraint  
of tension strap  
[NASA-CASE-XMS-04545] c15 N71-22878  
Development and characteristics of device for  
indicating and recording magnitude of force  
applied in axial direction  
[NASA-CASE-MSC-15626-1] c14 N72-25411

**DYNAMIC MODULUS OF ELASTICITY**  
Apparatus for testing metallic and nonmetallic  
beams or rods by bending at high temperatures  
in vacuum or inert atmosphere

[NASA-CASE-XLE-01300] c15 N70-41993

**DYNAMIC RESPONSE**  
Lunar and planetary gravity simulator to test  
vehicular response to landing  
[NASA-CASE-XLA-00493] c11 N70-34786  
Pressure sensor network for measuring liquid  
dynamic response in flight including fuel tank  
acceleration, liquid slosh amplitude, and fuel  
depth monitoring  
[NASA-CASE-XLA-05541] c12 N71-26387  
Response analyzing apparatus for liquid vapor  
interface sensor of sloshing rocket propellant  
[NASA-CASE-NFS-11204] c14 N71-29134

**DYNAMIC STRUCTURAL ANALYSIS**  
Development of system for measuring damping  
characteristics of structure or system  
subjected to random forces or influences  
[NASA-CASE-ARC-10154-1] c14 N72-22440

**DYNAMIC TESTS**  
Hydraulic support equipment for full scale  
dynamic testing of large rocket vehicle under  
free flight conditions  
[NASA-CASE-XMF-01772] c11 N70-41677  
Hydraulic support apparatus for dynamic testing  
of space vehicles under near-free flight  
conditions  
[NASA-CASE-XMF-03248] c11 N71-10604

**DYNAMOMETERS**  
Dynamometer measuring microforce thrust produced  
by ion engine  
[NASA-CASE-XLE-00702] c14 N70-40203  
Development of thrust dynamometer for measuring  
performance of jet and rocket engines  
[NASA-CASE-XLE-05260] c14 N71-20429

## E

**EAR**  
Ear oximeter for monitoring blood oxygenation  
and pressure, pulse rate, and pressure pulse  
curve, using dc and ac amplifiers  
[NASA-CASE-XAC-05422] c04 N71-23185

**EARTH (PLANET)**  
Camera arrangement --- for satellite scanning of  
earth or sky  
[NASA-CASE-GSC-12032-2] c35 N76-19408

**EARTH ATMOSPHERE**  
Ablation sensor for measuring surface ablation  
rate of material on vehicles entering earths  
atmosphere on entry into planetary atmospheres  
[NASA-CASE-XLA-01791] c14 N71-22991

**EARTH ORBITS**  
Electric furnace for vacuum and zero gravity  
melting of high melting point materials during  
earth orbit  
[NASA-CASE-NFS-20710] c11 N72-23215  
Design and development of space shuttle system  
for delivering payload to earth orbit or  
celestial orbit  
[NASA-CASE-MSC-12391] c30 N73-12884

**ECONOMIC ANALYSIS**  
Economical satellite aided vehicle avoidance  
system for preventing midair collisions  
[NASA-CASE-ERC-10419] c21 N72-21631

**EFFICIENCY**  
Recovering efficiency of solar cells damaged by  
environmental radiation through thermal  
annealing  
[NASA-CASE-XGS-04047-2] c03 N72-11062  
High efficiency multifrequency feed  
[NASA-CASE-GSC-11909] c09 N74-20863

**EFFLUENTS**  
Vortex generator controlling the dispersion of  
effluents in a flowing liquid  
[NASA-CASE-LAR-12045-1] c34 N76-23521

**EJECTION**  
Apparatus for ejecting covers of instrument  
packages using differential pressure principle  
[NASA-CASE-XMF-04132] c15 N69-27502

**EJECTION SEATS**  
Ejector for separating astronaut from ejection  
seat during prelaunch or initial launch phase  
of flight  
[NASA-CASE-XMS-04625] c05 N71-20718

**EJECTORS**  
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[NASA-CASE-XNP-00676] c15 N70-38996

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[NASA-CASE-XMS-04625] c05 N71-20718
- Latching mechanism with pivoting catch and self-contained spring ejector  
[NASA-CASE-XLA-03538] c15 N71-24897
- ELASTIC BODIES**
- Belleville spring assembly with elastic guides having low hysteresis  
[NASA-CASE-XNP-09452] c15 N69-27504
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[NASA-CASE-XAC-05632] c32 N71-23971
- Device for measuring tensile forces  
[NASA-CASE-NFS-21728-1] c14 N74-27865
- ELASTIC DEFORMATION**
- Measuring shear-creep compliance of solid and liquid materials used in spacecraft components  
[NASA-CASE-XLE-01481] c14 N71-10781
- Development of systems for automatically and continually suppressing or attenuating bending motion in elastic bodies  
[NASA-CASE-XAC-05632] c32 N71-23971
- ELASTIC MEDIA**
- Miniature vibration isolator utilizing elastic tubing material  
[NASA-CASE-XLA-01019] c15 N70-40156
- ELASTIC PROPERTIES**
- Elastic universal joint for rocket motor mounting  
[NASA-CASE-XNP-00416] c15 N70-36947
- Resilient vehicle wheel for lunar surface travel  
[NASA-CASE-NFS-20400] c31 N71-18611
- Threadless fastener apparatus comprising receiving apertures for plurality of articles, self-locked condition, and capable of using nonmalleable materials in both ends  
[NASA-CASE-XPR-05302] c15 N71-23254
- Chemical and elastic properties of fluorinated polyurethanes  
[NASA-CASE-NPO-10767-1] c06 N73-33076
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[NASA-CASE-MSC-12116-1] c15 N71-17648
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[NASA-CASE-XGS-02631] c03 N71-23006
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[NASA-CASE-ARC-10268-2] c05 N74-11900
- Ultra-flexible biomedical electrode and wires  
[NASA-CASE-ARC-10268-3] c05 N74-11901
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- Flame retardant elastomeric compositions  
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[NASA-CASE-NFS-23186-1] c33 N76-23483
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[NASA-CASE-XLA-00330] c33 N70-34540
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[NASA-CASE-XNP-00392] c15 N70-34814
- Triggering system for electric arc driven impulse wind tunnel  
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[NASA-CASE-XLE-04788] c09 N71-22987
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[NASA-CASE-LEW-11162-1] c09 N74-12913
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[NASA-CASE-XNP-03378] c03 N71-11051
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[NASA-CASE-XGS-05432] c03 N71-19438
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[NASA-CASE-GSC-10487-1] c03 N71-24719
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[NASA-CASE-LEW-11359] c03 N71-28579
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Miniature electromechanical junction transducer operating on piezjunction effect and utilizing epoxy for stress coupling component  
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[NASA-CASE-XMF-08522] c15 N71-19486

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[NASA-CASE-XGS-01451] c09 N71-10677

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[NASA-CASE-XMF-06617] c09 N71-24843

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[NASA-CASE-LEW-11617-1] c09 N74-10195

Image tube --- deriving electron beam replica of image  
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[NASA-CASE-XGS-01725] c14 N69-39982

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[NASA-CASE-XLE-10453-2] c28 N73-27699

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Resistive anode image converter  
[NASA-CASE-HQN-10876-1] c33 N76-27473
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temperature electron plasma with homogenous  
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secondary electron transmission  
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[NASA-CASE-ARC-10370-1] c36 N75-31426
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[NASA-CASE-XGS-05582] c07 N69-27460  
Electronic circuit system for controlling  
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[NASA-CASE-XNP-01129] c09 N70-38712  
Scanning signal phase and amplitude electronic  
control device with hybrid T waveguide junction  
[NASA-CASE-NPO-10302] c10 N71-26142  
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and roll forces  
[NASA-CASE-LEW-10689-1] c28 N71-26173  
Electronic detection system for peak  
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spacecraft components  
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hydrogen detector  
[NASA-CASE-XNP-06531] c14 N71-17575  
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Development and characteristics of oscillating  
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with amplitude modulation, phase modulation,  
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[NASA-CASE-XGS-00740] c07 N71-23098
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[NASA-CASE-XLE-04501] c09 N71-23190  
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acoustic variable time delay line using direct  
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and applying voltages to electronic  
instruments without loading signal source  
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alignment problem  
[NASA-CASE-LAR-10204] c14 N71-27215  
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temperature in electronic components  
[NASA-CASE-XNP-02792] c14 N71-28958  
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FM signal transmission  
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[NASA-CASE-XLE-00810] c15 N70-34861  
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[NASA-CASE-XMP-10040] c15 N71-22877  
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 [NASA-CASE-LAR-10367-1] c03 N70-26817  
 Pulse generator for synchronizing or resetting  
 electronic signals without requiring separate  
 external source  
 [NASA-CASE-XGS-03632] c09 N71-23311  
 Controllable high voltage source having fast  
 settling time  
 [NASA-CASE-GSC-11844-1] c33 N75-19522

**ENERGY STORAGE**  
 Switching mechanism with energy stored in coil  
 spring  
 [NASA-CASE-XGS-00473] c03 N70-38713  
 Stored charge transistor  
 [NASA-CASE-NPO-11156-2] c33 N75-31331  
 An improved rotatable mass for a flywheel  
 [NASA-CASE-MPS-23051-1] c37 N76-13500  
 An artificial leg employing a mechanical energy  
 storage device for hip disarticulation  
 [NASA-CASE-ARC-10916-1] c54 N76-26871  
 Mechanical capacitor  
 [NASA-CASE-GSC-12030-1] c44 N76-30652

**ENERGY TRANSFER**  
 Solar energy absorber  
 [NASA-CASE-MPS-22743-1] c44 N76-22657

**ENGINE CONTROL**  
 Direct current electromotive system for  
 regenerative braking of electric motor  
 [NASA-CASE-XMP-01096] c10 N71-16030  
 Integrated lift/drag controller for aircraft  
 [NASA-CASE-ARC-10456-1] c05 N75-12930

**ENGINE COOLANTS**  
 Apparatus for cooling and injecting hypergolic  
 propellants into combustion chamber of small  
 rocket engine  
 [NASA-CASE-XLE-00303] c15 N70-36535  
 Injector manifold assembly for bipropellant  
 rocket engines providing for fuel propellant  
 to serve as coolant  
 [NASA-CASE-XMP-00148] c28 N70-38710

**ENGINE DESIGN**  
 Design and development of gas turbine combustion  
 unit with nozzle guide vanes for introducing  
 diluent air into combustion gases  
 [NASA-CASE-XLE-103477-1] c28 N71-20330  
 Construction and method of arranging plurality  
 of ion engines to form cluster thereby  
 increasing efficiency and control by  
 decreasing heat radiated to space  
 [NASA-CASE-XNP-02923] c28 N71-23081  
 Space vehicle system  
 [NASA-CASE-MSC-12561-1] c18 N76-17185  
 Noise suppressor for turbo fan jet engines  
 [NASA-CASE-ARC-10812-1] c07 N76-18131  
 Fuel combustor  
 [NASA-CASE-LEW-12137-1] c20 N76-20215

**ENGINE FAILURE**  
 System for monitoring presence of neutrals in  
 streams of ions - ion engine control  
 [NASA-CASE-INP-02592] c24 N71-20518

**ENGINE INLETS**  
 Variably positioned guide vanes for aerodynamic  
 choking  
 [NASA-CASE-LAR-10642-1] c28 N74-31270  
 Jet engine air intake system  
 [NASA-CASE-ARC-10761-1] c07 N75-31108

**ENGINE MONITORING INSTRUMENTS**  
 System for monitoring presence of neutrals in  
 streams of ions - ion engine control  
 [NASA-CASE-INP-02592] c24 N71-20518

**ENGINE NOISE**  
 Variably positioned guide vanes for aerodynamic  
 choking  
 [NASA-CASE-LAR-10642-1] c28 N74-31270

**ENGINE TESTS**  
 Electric propulsion engine test chamber  
 [NASA-CASE-XLE-00252] c11 N70-34844

**ENGINEERING DRAWINGS**  
 High-temperature, high-pressure spherical  
 segment valve  
 [NASA-CASE-XAC-00074] c15 N70-34817  
 Graphic illustration of lifting body design  
 [NASA-CASE-PRC-10063] c01 N71-12217  
 Specifications and drawings for semipassive  
 optical communication system  
 [NASA-CASE-XLA-01090] c07 N71-12389  
 Method of making molded electric connector for  
 use with flat conductor cables  
 [NASA-CASE-XMF-03498] c15 N71-15986

**ENTHALPY**  
 Measuring conductive heat flow and thermal  
 conductivity of laminar gas stream in  
 cylindrical plug to simulate atmospheric reentry  
 [NASA-CASE-XLE-00266] c14 N70-34156

**ENVIRONMENT SIMULATION**  
 Method and apparatus for applying compressional  
 forces to skeletal structure of subject to  
 simulate force during ambulatory conditions  
 [NASA-CASE-ARC-10100-1] c05 N71-24738  
 Gravity environment simulation by locomotion and  
 restraint aid for studying manual operation  
 performance of astronauts at zero gravity  
 [NASA-CASE-ARC-10153] c05 N71-28619

**ENVIRONMENT SIMULATORS**  
 Space environment simulator for testing  
 spacecraft components under aerospace conditions  
 [NASA-CASE-NPO-10141] c11 N71-24964

**ENVIRONMENTAL CONTROL**  
 Portable environmental control and life support  
 system for astronaut in and out of spacecraft  
 [NASA-CASE-XMS-09632-1] c05 N71-11203  
 Portable apparatus producing high velocity  
 annular air column surrounding low velocity,  
 filtered, superclean air central core for  
 industrial clean room environmental control  
 [NASA-CASE-XMP-03212] c15 N71-22721  
 Development and characteristics of thermal  
 sensitive panel for controlling ratio of solar  
 absorptivity to surface emissivity for space  
 vehicle temperature control  
 [NASA-CASE-XLA-07728] c33 N71-22890  
 Dual solid cryogenics for spacecraft refrigeration  
 insuring low temperature cooling for extended  
 periods  
 [NASA-CASE-GSC-10188-1] c23 N71-24725  
 Vibration control of flexible bodies in steady  
 accelerating environment  
 [NASA-CASE-LAR-10106-1] c15 N71-27169  
 Test chamber for determining decomposition and  
 autoignition of materials used in spacecraft  
 under controlled environmental conditions  
 [NASA-CASE-KSC-10198] c11 N71-28629  
 Readily assembled universal environment housing  
 for electronic equipment  
 [NASA-CASE-KSC-10031] c15 N72-22486  
 Environmentally controlled suit for working in  
 sterile chamber  
 [NASA-CASE-LAR-10076-1] c05 N73-20137  
 Dual stage check valve for cryogenic supply  
 systems used in space flight environmental  
 control system  
 [NASA-CASE-MSC-13587-1] c15 N73-30459  
 Spacecraft with artificial gravity and earthlike  
 atmosphere  
 [NASA-CASE-LEW-11101-1] c31 N73-32750

**ENVIRONMENTAL ENGINEERING**  
 Thermal control wall panel with application to  
 spacecraft cabins  
 [NASA-CASE-XLA-01243] c33 N71-22792

**ENVIRONMENTAL TESTS**  
 Multisample test chamber for exposing materials  
 to X rays, temperature change, and gaseous  
 conditions and determination of material effects  
 [NASA-CASE-XMS-02930] c11 N71-23042  
 Space suit using nonflexible material with low  
 leakage and providing protection against  
 thermal extremes, physical punctures, and  
 radiation with high mobility articulation  
 [NASA-CASE-XAC-07043] c05 N71-23161  
 Flammability test chamber for testing materials  
 in certain predetermined environments  
 [NASA-CASE-KSC-10126] c11 N71-24985  
 Multiaxes vibration device for making vibration  
 tests along orthogonal axes of test specimen  
 [NASA-CASE-MPS-20242] c14 N73-19421

## ENVIRONMENTS

Hermetically sealed elbow actuator for use in severe environments  
[NASA-CASE-MPS-14710] c09 N72-22195

## ENZYME ACTIVITY

Use of enzyme hexokinase and glucose to reduce inherent light levels of ATP in luciferase compositions  
[NASA-CASE-XGS-05533] c04 N69-27487  
Enzymatic luminescent bioassay method for determining bacterial levels in urine  
[NASA-CASE-GSC-11092-2] c04 N73-27052

## ENZYMES

Protein sterilization of firefly luciferase without denaturation  
[NASA-CASE-GSC-10225-1] c06 N73-27086

## EPOXY COMPOUNDS

Synthesis of siloxane containing epoxy polymers with low dielectric properties  
[NASA-CASE-MPS-13994-1] c06 N71-11240  
Synthesis of siloxane containing epoxide and diamine polymers  
[NASA-CASE-MPS-13994-2] c06 N72-25148

## EPOXY RESINS

Nonmagnetic hermetically sealed battery case made of epoxy resin and woven glass tape for use with electrochemical cells in spacecraft  
[NASA-CASE-XGS-00886] c03 N71-11053

Epoxy resin sealing device for electrochemical cells in high vacuum environments  
[NASA-CASE-XGS-02630] c03 N71-22974

Cold metal hydroforming techniques using epoxy molds for counteracting creep or stretch  
[NASA-CASE-XLE-05641-1] c15 N71-26346

Miniature electromechanical junction transducer operating on piezofunction effect and utilizing epoxy for stress coupling component  
[NASA-CASE-ERC-10087] c14 N71-27334

Infusible polymer production from reaction of polyfunctional epoxy resins with polyfunctional aziridine compounds  
[NASA-CASE-NPO-10701] c06 N71-28620

Method of repairing discontinuity in fiberglass structures  
[NASA-CASE-LAR-10416-1] c18 N74-30001

Transparent fire resistant polymeric structures  
[NASA-CASE-ARC-10813-1] c27 N76-16230

A method for fabricating graphite/epoxy laminate from ultrathin laminae  
[MPS-23229-1] c24 N76-19231

## EQUILIBRIUM EQUATIONS

Scattering independent determination of absorption and emission coefficients and radiative equilibrium state  
[NASA-CASE-NPO-13677-1] c35 N75-16791

## EQUIPMENT

Bi-metallic fluid displacement apparatus --- for stirring and heating stored gases and liquids  
[NASA-CASE-ARC-10441-1] c15 N74-15126

## EQUIPMENT SPECIFICATIONS

Differential pressure cell insensitive to changes in ambient temperature and extreme overload  
[NASA-CASE-XAC-00042] c14 N70-34816

High-temperature, high-pressure spherical segment valve  
[NASA-CASE-XAC-00074] c15 N70-34817

Remote-reading torque meter for use where high horsepower are transmitted at high rotative speeds  
[NASA-CASE-XLE-00503] c14 N70-34818

Magnetically centered liquid column float  
[NASA-CASE-XAC-00030] c14 N70-34820

Electric propulsion engine test chamber  
[NASA-CASE-XLE-00252] c11 N70-34844

Channel-type shell construction for rocket engines and related configurations  
[NASA-CASE-XLE-00144] c28 N70-34860

Non-reusable kinetic energy absorber for application in soft landing of space vehicles  
[NASA-CASE-XLE-00810] c15 N70-34861

Slit regulated gas journal bearing  
[NASA-CASE-XNP-00476] c15 N70-38620

Specifications and drawings for semipassive optical communication system  
[NASA-CASE-XLA-01090] c07 N71-12389

Stretcher with rigid head and neck support with capability of supporting immobilized person in vertical position for removal from vehicle

hatch to exterior also useful as splint stretcher  
[NASA-CASE-XMP-06589] c05 N71-23159

Development of vortex fluid amplifier for throttling rocket exhaust  
[NASA-CASE-LEW-10374-1] c28 N73-13773

Simplified technique and device for producing industrial grade synthetic diamonds  
[NASA-CASE-MPS-20698-2] c15 N73-19457

Anti-buckling fatigue test assembly --- for subjecting metal specimen to tensile and compressive loads at constant temperature  
[NASA-CASE-LAR-10426-1] c32 N74-19528

Apparatus for conducting flow electrophoresis in the substantial absence of gravity  
[NASA-CASE-MPS-21394-1] c12 N74-27744

Thermocouple tape --- developed from thermoelectrically different metals  
[NASA-CASE-LEW-11072-2] c35 N76-15434

## EQUIPOTENTIALS

Equipotential space suits utilizing mechanical aids to minimize astronaut energy at bending joints  
[NASA-CASE-LAR-10007-1] c05 N71-11195

Instrument for measuring potentials on two dimensional electric field plot  
[NASA-CASE-XLA-08493] c10 N71-19421

## ERGOMETERS

Development of restraint system for securing personnel to ergometer while exercising under weightless conditions  
[NASA-CASE-MPS-21046-1] c14 N73-27377

Versatile ergometer with work load control  
[NASA-CASE-MPS-21109-1] c05 N73-27941

Tilting table for testing human body in variety of positions while exercising on ergometer or other biomedical devices  
[NASA-CASE-MPS-21010-1] c05 N73-30078

Pneumatic foot pedal operated fluidic exercising device  
[NASA-CASE-MSC-11561-1] c05 N73-32014

Ergometer calibrator --- for any ergometer utilizing rotating shaft  
[NASA-CASE-MPS-21045-1] c35 N75-15932

## EROSION

Thermal shock and erosion resistant tantalum carbide ceramic material  
[NASA-CASE-LAR-11902-1] c27 N76-23436

## ERROR ANALYSIS

Development of computer program for estimating reliability of self-repair and fault-tolerant systems with respect to selected system and mission parameters  
[NASA-CASE-NPO-13086-1] c15 N73-12495

## ERROR CORRECTING DEVICES

Error correction circuitry for binary signal channels  
[NASA-CASE-XNP-03263] c09 N71-18843

Multiplexed communication system design including automatic correction of transmission errors introduced by frequency spectrum shifts  
[NASA-CASE-XNP-01306] c07 N71-20814

Description of error correcting methods for use with digital data computers and apparatus for encoding and decoding digital data  
[NASA-CASE-XNP-02748] c08 N71-22749

Guide accessories for correctly aligning paper in typewriter to correct typographical errors  
[NASA-CASE-MPS-15218-1] c15 N73-31438

Failure detection and control means for improved drift performance of a gimbal platform system  
[NASA-CASE-MPS-23551-1] c04 N76-26175

## ERROR DETECTION CODES

Self testing and repairing computer comprising control and diagnostic unit and rollback points for error correction  
[NASA-CASE-NPO-10567] c08 N71-24633

## ERROR SIGNALS

Error correction circuitry for binary signal channels  
[NASA-CASE-XNP-03263] c09 N71-18843

Feedback controller for sampling error signals within single control formulation time interval  
[NASA-CASE-GSC-10554-1] c08 N71-29033

## ERRORS

Analog to digital converter using offset voltage to eliminate errors  
[NASA-CASE-MSC-13110-1] c08 N72-22163

## ESCAPE CAPSULES

Aerial capsule emergency separation device using jettisonable towers  
 [NASA-CASE-XLA-00115] c03 N70-33343  
 Emergency escape cabin system for launch towers  
 [NASA-CASE-XKS-02342] c05 N71-11199  
 Spacecraft design with single point aerodynamic and hydrodynamic stability for emergency transport of men from space station to splashdown  
 [NASA-CASE-MSC-13281] c31 N72-18859

## ESCAPE SYSTEMS

Design and specifications of emergency escape system for spacecraft structures  
 [NASA-CASE-MSC-12086-1] c05 N71-12345  
 Automatic braking device for rapidly transferring humans or materials from elevated location  
 [NASA-CASE-XKS-07814] c15 N71-27067  
 An improved load handling device  
 [NASA-CASE-MPS-23233-1] c54 N75-33725

## ESTERS

Fluorinated esters of polycarboxylic acid and lubricating compositions for use at extreme temperature  
 [NASA-CASE-MPS-21040-1] c06 N73-30098

## ETCHING

Reusable masking boot for chemical machining operations  
 [NASA-CASE-XNP-02092] c15 N70-42033  
 Development of method for etching copper  
 [NASA-CASE-XGS-06306] c17 N71-16044  
 Composition and process for improving definition of resin masks used in chemical etching  
 [NASA-CASE-XGS-04993] c14 N71-17574  
 Etching aluminum alloys with aqueous solution containing sulfuric acid, hydrofluoric acid, and an alkali metal dischromate for adhesive bonding  
 [NASA-CASE-XNP-02303] c17 N71-23828  
 Selective plating of etched circuits without removing previous plating  
 [NASA-CASE-XGS-03120] c15 N71-24047  
 Nickel plating onto etched aluminum castings  
 [NASA-CASE-XNP-04148] c17 N71-24830  
 Scanning nozzle plating system --- for etching or plating metals on substrates without masking  
 [NASA-CASE-NPO-11758-1] c15 N74-23065

## ETHERS

Method for producing alternating ether-siloxane copolymers with stable properties when exposed to elevated temperatures and UV radiation  
 [NASA-CASE-XNP-02584] c06 N71-20905  
 Chemical synthesis of hydroxy terminated perfluoro ethers as intermediates for highly fluorinated polyurethane resins  
 [NASA-CASE-NPO-10768] c06 N71-27254  
 Formation of polyurethane resins from hydroxy terminated perfluoro ethers  
 [NASA-CASE-NPO-10768-2] c06 N72-27144

## ETHYLENE OXIDE

Using ethylene oxide in preparation of sterilized solid rocket propellants and encapsulating materials  
 [NASA-CASE-XNP-01749] c27 N70-41897  
 Ethylene oxide sterilization and encapsulating process for sterile preservation of instruments and solid propellants  
 [NASA-CASE-XNP-09763] c14 N71-20461

## EUTECTIC ALLOYS

Bonding of sapphire to sapphire by eutectic mixture of aluminum oxide and zirconium oxide  
 [NASA-CASE-GSC-11577-1] c37 N75-15992  
 Method of growing composites of the type exhibiting the Soret effect --- improve structure of eutectic alloys, crystals  
 [NASA-CASE-MPS-22926-1] c25 N75-19380

## EVACUATING (VACUUM)

Filling honeycomb matrix with deaerated paste filler  
 [NASA-CASE-XMS-01108] c15 N69-24322  
 Sealing evacuation port and evacuating vacuum container such as space jackets  
 [NASA-CASE-XNP-03290] c15 N71-23256  
 Gas leak detection in evacuated systems using ultraviolet radiation probe  
 [NASA-CASE-ERC-10034] c15 N71-24896  
 Evacuated, displacement compression mold --- of tubular bodies from thermosetting plastics

[NASA-CASE-LAR-10782-2] c31 N75-13111

## EVAPORATION

Evaporating crucible of tantalum-tungsten foil, nickel alumina bonding agent, and ceramic coating  
 [NASA-CASE-XLA-03105] c15 N69-27483

## EVAPORATIVE COOLING

Tabular sublimator/evaporator heat sink  
 [NASA-CASE-ARC-10912-1] c44 N76-13599

## EVAPORATORS

Spatter proof evaporant source design for use in vacuum deposition of solid thin films on substrates  
 [NASA-CASE-XMP-06065] c15 N71-20395  
 Means of vapor deposition using electric current and evaporator filament  
 [NASA-CASE-LAR-10541-1] c15 N72-32487

## EXAMINATION

An improved method and apparatus for use in examining the lattice of a semiconductor wafer by X-ray diffraction  
 [NASA-CASE-MPS-23315-1] c76 N76-32029

## EXHAUST GASES

Device for adding water to high velocity exhaust jets to reduce velocity, noise, and temperature  
 [NASA-CASE-XMP-01813] c28 N70-41582  
 Gas turbine exhaust nozzle --- for noise reduction  
 [NASA-CASE-LEW-11569-1] c28 N74-15453  
 Abating exhaust noises in jet engines  
 [NASA-CASE-ARC-10712-1] c28 N74-33218  
 Exhaust flow deflector --- for ducted gas flow  
 [NASA-CASE-LAR-11570-1] c34 N76-18364  
 Reduction of nitric oxide emissions from a combustor  
 [NASA-CASE-ARC-10814-1] c07 N76-23270

## EXHAUST NOZZLES

High thrust annular liquid propellant rocket engine and exhaust nozzle design  
 [NASA-CASE-XLE-00078] c28 N70-33284  
 Exhaust nozzle with afterburning for generating thrust  
 [NASA-CASE-XLA-00154] c28 N70-33374  
 Penshaped, supersonic exhaust nozzle design  
 [NASA-CASE-XLE-00057] c28 N70-38711  
 Automatic ejection valve for attitude control and midcourse guidance of space vehicles  
 [NASA-CASE-XNP-00676] c15 N70-38996  
 Jet aircraft exhaust nozzle for noise reduction  
 [NASA-CASE-LAR-10951-1] c28 N73-19819  
 Two dimensional wedge/translating shroud nozzle  
 [NASA-CASE-LAR-11919-1] c07 N76-22202

## EXPANDABLE STRUCTURES

Expanding and contracting connector strip for solar cell array of Nimbus satellite  
 [NASA-CASE-XGS-01395] c03 N69-21539  
 Method of compactly packaging centrifugally expandable lightweight flexible reflector satellite  
 [NASA-CASE-XLA-00138] c31 N70-37981  
 Foldable conduit capable of springing back as self erecting structural member  
 [NASA-CASE-XLE-00620] c32 N70-41579  
 Collapsible high gain antenna which can be automatically expanded to operating state  
 [NASA-CASE-KSC-10392] c07 N73-26117  
 Expandable space frames with high expansion to collapse ratio  
 [NASA-CASE-ERC-10365-1] c31 N73-32749  
 Means for accommodating large overstrain in lead wires --- by storing extra length of wire in stretchable loop  
 [NASA-CASE-LAR-10168-1] c09 N74-22865

## EXPANSION

Apparatus for measuring polymer membrane expansion in electrochemical cells  
 [NASA-CASE-XGS-03865] c14 N69-21363

## EXPERIMENTAL DESIGN

Efficient operation of improved hydrofoil design  
 [NASA-CASE-XLA-00229] c12 N70-33305  
 Sealed electric storage battery with gas manifold interconnecting each cell  
 [NASA-CASE-XNP-03378] c03 N71-11051  
 Electrode attached to helmets for detecting low level signals from skin of living creatures  
 [NASA-CASE-ARC-10043-1] c05 N71-11193  
 Space suit using nonflexible material with low leakage and providing protection against thermal extremes, physical punctures, and radiation with high mobility articulation



- [NASA-CASE-XAC-07043] c05 N71-23161
- EXPLOSIONS**  
Device for detection of combustion light preceding gaseous explosions  
[NASA-CASE-LAR-10739-1] c14 N73-16484
- EXPLOSIVE DEVICES**  
Stage separation using remote control release of joint with explosive insert  
[NASA-CASE-XLA-02854] c15 N69-27490  
Hermetically sealed explosive release mechanism for actuator device  
[NASA-CASE-XGS-00824] c15 N71-16078  
Development of non-magnetic indexing device for orienting magnetic flux sensing instrument in magnetic field without generation of detrimental magnetic fields  
[NASA-CASE-XGS-02422] c15 N71-21529  
Development of apparatus for detonating explosive devices in order to determine forces generated and detonation propagation rate  
[NASA-CASE-LAR-10800-1] c33 N72-27959  
Development and characteristics of squib actuated explosive disconnect for spacecraft release from launch vehicle  
[NASA-CASE-NPO-11330] c33 N73-26958
- EXPLOSIVE FORMING**  
Electric discharge apparatus for electrohydraulic explosive forming  
[NASA-CASE-XMP-00375] c15 N70-34249
- EXPLOSIVE WELDING**  
Method for eliminating noise and debris of explosive welding techniques by using complete enclosure  
[NASA-CASE-LAR-10941-2] c15 N73-32371  
Totally confined explosive welding --- apparatus to reduce noise level and protect personnel during explosive bonding  
[NASA-CASE-LAR-10941-1] c15 N74-21057  
Method of making an explosively welded scarf joint  
[NASA-CASE-LAR-11211-1] c37 N75-12326
- EXPLOSIVES**  
Production of intermetallic compounds by effect of shock waves from explosions and compaction of powder  
[NASA-CASE-MFS-20861-1] c18 N73-32437  
Optically detonated explosive device  
[NASA-CASE-NPO-11743-1] c33 N74-27425
- EXPONENTIAL FUNCTIONS**  
Digital quasi-exponential function generator  
[NASA-CASE-NPO-11130] c08 N72-20176
- EXPOSURE**  
Mechanical exposure interlock device for preventing film overexposure in oscilloscope camera  
[NASA-CASE-LAR-10319-1] c14 N73-32322
- EXPULSION BLADDERS**  
Expulsion bladder equipped storage tank structure  
[NASA-CASE-XNP-00612] c11 N70-38182  
Rubber composition for expulsion bladders and diaphragms for use with hydrazine  
[NASA-CASE-NPO-11433] c18 N71-31140
- EXTENSIONS**  
Support for flexible conductor cable between drawers or racks holding electronic equipment and cabinet assembly housing drawers or racks  
[NASA-CASE-XMP-07587] c15 N71-18701
- EXTENSOMETERS**  
Transducer frame for use with extensometer to continuously monitor specimen sample  
[NASA-CASE-XLA-10322] c15 N72-17452  
Conductive elastomeric extensometer  
[NASA-CASE-MFS-21049-1] c14 N74-27864  
Amplifying ribbon extensometer  
[NASA-CASE-LAR-11825-1] c35 N76-13460
- EXTRACTION**  
Liquid-gas separator adapted for use in zero gravity environment - drawings  
[NASA-CASE-XMS-01624] c15 N70-40062
- EXTRAVEHICULAR ACTIVITY**  
Portable environmental control and life support system for astronaut in and out of spacecraft  
[NASA-CASE-XMS-09632-1] c05 N71-11203  
Hand-held maneuvering unit for propulsion and attitude control of astronauts in zero or reduced gravity environment  
[NASA-CASE-XMS-05304] c05 N71-12336  
Internal and external serpentine devices for performing physical operations around orbital space stations
- [NASA-CASE-XMP-05344] c31 N71-16345  
Releasable, pin-type fastener, easily operated during EVA  
[NASA-CASE-ARC-10140-1] c15 N71-17653  
Design and development of flexible tunnel for use by spacecrews in performing extravehicular activities  
[NASA-CASE-MSC-12243-1] c05 N71-24728  
Open loop life support subsystem using breathing bag as reservoir for EVA  
[NASA-CASE-MSC-12411-1] c05 N72-20096  
Intra- and extravehicular life support space suite for Apollo astronauts  
[NASA-CASE-MSC-12609-1] c05 N73-32012
- EXTREMELY LOW RADIO FREQUENCIES**  
VHF/UHF parasitic probe antenna for spacecraft communication  
[NASA-CASE-XKS-09340] c07 N71-24614
- EXTRUDING**  
Extrusion can for extruding ceramics under heat and pressure  
[NASA-CASE-NPO-10812] c15 N73-13464  
Brazing alloy binder  
[NASA-CASE-XMP-05868] c26 N75-27125
- EYE (ANATOMY)**  
Sight switch using infrared source and sensor mounted beside eye  
[NASA-CASE-XMP-03934] c09 N71-22985  
Ultrasonic device for ophthalmic eye surgery with safe removal of macerated material  
[NASA-CASE-LEW-11669-1] c05 N73-27062
- EYE EXAMINATIONS**  
Automated visual sensitivity tester for determining visual field sensitivity and blind spot size  
[NASA-CASE-ARC-10329-1] c05 N73-26072  
Multiparameter vision testing apparatus  
[NASA-CASE-MSC-13601-2] c54 N75-27759  
Visual examination apparatus  
[NASA-CASE-RE-ARC-10329-2] c52 N76-30793
- EYEPICES**  
Wide angle eyepiece with long eye-relief distance  
[NASA-CASE-XMS-06056-1] c23 N71-24857
- F**
- FABRICATION**  
Fabrication of pressure-telemetry transducers  
[NASA-CASE-XNP-09752] c14 N69-21541  
Fabrication method for lightweight regeneratively cooled combustion chamber of channel construction  
[NASA-CASE-XLE-00150] c28 N70-41818  
Fabrication methods for matrices of solar cell submodules  
[NASA-CASE-XNP-05821] c03 N71-11056  
Capacitor fabrication by solidifying mixture of ferromagnetic metal particles, nonferromagnetic particles, and dielectric material  
[NASA-CASE-LEW-10364-1] c09 N71-13522  
Method and apparatus for fabricating solar cell panels  
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[NASA-CASE-XLA-01127] c07 N70-41372
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[NASA-CASE-NPO-11282] c10 N73-16205
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[NASA-CASE-XLE-03629] c17 N71-23248
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[NASA-CASE-NPO-13531-1] c36 N76-24553
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[NASA-CASE-XNP-00597] c18 N71-23088
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[NASA-CASE-GSC-10022-1] c10 N71-25882
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[NASA-CASE-NPO-10199] c09 N72-17156
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[NASA-CASE-XNP-04389] c28 N71-20942
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[NASA-CASE-XLE-03583] c31 N71-17629  
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[NASA-CASE-MFS-15063] c14 N72-25412  
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[NASA-CASE-GSC-10072] c18 N71-14014  
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[NASA-CASE-ARC-10196-1] c18 N73-13562  
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[NASA-CASE-ARC-10304-1] c18 N73-26572  
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[NASA-CASE-ARC-10180-1] c06 N74-12814  
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[NASA-CASE-GSC-11095-1] c14 N72-10375  
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[NASA-CASE-IGS-01971] c15 N71-15922
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[NASA-CASE-XNP-00683] c09 N70-35425  
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[NASA-CASE-MSC-19372-1] c39 N76-31562
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[NASA-CASE-XLA-00087] c02 N70-33332  
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[NASA-CASE-XNP-00641] c31 N70-36410  
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[NASA-CASE-LAR-10249-1] c02 N71-26110  
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[NASA-CASE-XMP-03498] c15 N71-15986  
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[NASA-CASE-MFS-13687] c09 N71-28691  
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[NASA-CASE-XLA-00117] c31 N71-17680  
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[NASA-CASE-MSC-12243-1] c05 N71-24728  
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[NASA-CASE-LAR-10753-1] c02 N74-30421  
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[NASA-CASE-XLA-06958] c02 N71-11038  
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[NASA-CASE-ERC-10412-1] c09 N73-12211  
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[NASA-CASE-PRC-10049-1] c21 N74-13420  
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[NASA-CASE-XPR-04104] c03 N70-42073  
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[NASA-CASE-XAC-00048] c02 N71-29128  
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[NASA-CASE-LAR-11140-1] c02 N73-20008  
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**FLIGHT RECORDERS**  
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[NASA-CASE-XLA-01832] c14 N71-21006  
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[NASA-CASE-XLA-00115] c03 N70-33343  
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[NASA-CASE-XPR-00929] c31 N70-34966  
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[NASA-CASE-XPR-03107] c09 N71-19449  
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[NASA-CASE-XKS-04631] c10 N71-23663  
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simulating gravitational forces on spacecraft  
and displaying trajectories between Earth,  
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[NASA-CASE-XNP-00708] c14 N70-35394  
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Reynolds number over transonic speed range  
[NASA-CASE-MPS-20509] c11 N72-17183  
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position of joystick displacement  
[NASA-CASE-NPO-11497] c08 N73-25206  
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[NASA-CASE-LAR-10550-1] c11 N74-30597  
Full color hybrid display for aircraft simulators  
[NASA-CASE-ARC-10903-1] c09 N76-10148  
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display system  
[NASA-CASE-ARC-10808-1] c09 N76-24280  
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[NASA-CASE-XLA-00113] c14 N70-33386  
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[NASA-CASE-XMS-01994-1] c14 N72-17326  
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high speed and low power dissipation  
[NASA-CASE-XGS-00823] c10 N71-15910  
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[NASA-CASE-GSC-10366-1] c10 N71-18772  
Interrogator and current driver circuit for  
combination with transistor flip-flop circuit  
[NASA-CASE-XGS-03058] c10 N71-19547  
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Floating baffle for tank drain  
[NASA-CASE-KSC-10639] c15 N73-26472  
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[NASA-CASE-LAR-10241-1] c05 N74-14845  
**FLOATS**  
Magnetically centered liquid column float  
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[NASA-CASE-XMS-04170] c05 N71-22748

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[NASA-CASE-XNP-00952] c10 N71-23271  
Flow angle sensor and remote readout system for use with cryogenic fluids  
[NASA-CASE-XLE-04503] c14 N71-24864

## FLOW DISTRIBUTION

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[NASA-CASE-ERC-10208] c15 N70-10867  
Photographing surface flow patterns on wind tunnel test models  
[NASA-CASE-XLA-01353] c14 N70-41366  
Color photointerpretation of interference colors reflected from thin film oil-coated components in moving gases for gas flow visualization  
[NASA-CASE-XMF-01779] c12 N71-20815  
Dual wavelength scanning Doppler velocimeter --- without perturbation of flow fields  
[NASA-CASE-ARC-10637-1] c35 N75-16783  
Controlled separation combustor --- airflow distribution in gas turbine engines  
[NASA-CASE-LFW-11593-1] c20 N76-14190

## FLOW MEASUREMENT

Collapsible flow test device for obstructed passages  
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Simulated fuel assembly-type flow measurement apparatus for coolant flow in reactor core  
[NASA-CASE-XLE-00724] c14 N70-34669  
Mass flow meter containing beta source for measuring nonpolar liquid flow  
[NASA-CASE-MPS-20485] c14 N72-11365  
Instrument for measuring magnitude and direction of flow velocity in flow field  
[NASA-CASE-LAR-10855-1] c14 N73-13415  
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## FLOW REGULATORS

Antibacklash circuit for hydraulic drive system  
[NASA-CASE-XNP-01020] c03 N71-12260  
Tubular flow restrictor for gas flow control in pipeline  
[NASA-CASE-NPO-10117] c15 N71-15608  
Fluid flow control valve for regulating fluids in molecular quantities  
[NASA-CASE-XLE-00703] c15 N71-15967  
Control of gas flow from pressurized vessel by thermal expansion of metal plug  
[NASA-CASE-NPO-10298] c12 N71-17661  
Semitoroidal diaphragm cavitating flow control valve  
[NASA-CASE-XNP-09704] c12 N71-18615  
Describing device for changing flow rate of fluid in duct in response to change in temperature  
[NASA-CASE-MPS-14259] c15 N71-19213  
Pneumatic servoamplifier for controlling flow regulation  
[NASA-CASE-MSC-12121-1] c15 N71-27147  
Gas flow control device, including housing and input port  
[NASA-CASE-NPO-11479] c15 N73-13462  
Pressure modulating valve  
[NASA-CASE-MSC-14905-1] c34 N76-29537

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[NASA-CASE-XNP-06926] c28 N71-22983  
Apparatus for establishing flow of a fluid mass having a known velocity  
[NASA-CASE-MPS-21424-1] c12 N74-27730

## FLOW VELOCITY

Continuous variation of propellant flow and thrust by application of liquid foam flow theory to injection orifice  
[NASA-CASE-XLE-00177] c28 N70-40367  
Measuring density of single and two-phase cryogenic fluids in rocket fuel tanks  
[NASA-CASE-XLE-00688] c14 N70-41330  
Device for adding water to high velocity exhaust jets to reduce velocity, noise, and temperature

[NASA-CASE-XNP-01813] c28 N70-41582  
Positive displacement flowmeter for measuring extremely low flows of fluid with self calibrating features  
[NASA-CASE-XNP-02822] c14 N70-41994  
Zeta potential flowmeter for measuring very slow to very high flows  
[NASA-CASE-XNP-06509] c14 N71-23226  
Device for simultaneously determining density, velocity, and temperature of streaming gas  
[NASA-CASE-XLA-03375] c16 N71-24074  
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[NASA-CASE-XAC-10770-1] c16 N71-24828  
Flowmeters for sensing low fluid flow rate and pressure for application to respiration rate studies  
[NASA-CASE-FRC-10022] c12 N71-26546  
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[NASA-CASE-NPO-10808] c15 N71-27432  
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[NASA-CASE-NPO-10722] c09 N72-20199  
Instrument for measuring magnitude and direction of flow velocity in flow field  
[NASA-CASE-LAR-10855-1] c14 N73-13415  
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[NASA-CASE-MPS-21424-1] c12 N74-27730  
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## FLOWMETERS

Collapsible flow test device for obstructed passages  
[NASA-CASE-XMS-04917] c14 N69-24257  
Simulated fuel assembly-type flow measurement apparatus for coolant flow in reactor core  
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Positive displacement flowmeter for measuring extremely low flows of fluid with self calibrating features  
[NASA-CASE-XNP-02822] c14 N70-41994  
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[NASA-CASE-XNP-06509] c14 N71-23226  
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[NASA-CASE-LEW-10327] c17 N71-33408
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[NASA-CASE-XNP-01056] c14 N71-23041
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[NASA-CASE-ARC-10344-1] c14 N72-21433
- Nondispersive gas analysis using radiation detection for quantitative analysis  
[NASA-CASE-ARC-10308-1] c06 N72-31141
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[NASA-CASE-LAR-11428-1] c14 N74-34857
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[NASA-CASE-MSC-14757-1] c37 N76-13496
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[NASA-CASE-XNP-01887] c15 N71-10617
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fluid to high temperatures  
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[NASA-CASE-XLE-00376] c28 N70-37245  
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[NASA-CASE-IMP-06926] c28 N71-22983

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[NASA-CASE-NPO-10070] c15 N71-27372  
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preselected gases at high sampling rate  
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chamber  
[NASA-CASE-NPO-10890] c11 N73-12265  
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preceding gaseous explosions  
[NASA-CASE-LAR-10739-1] c14 N73-16484

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vacuum systems operating at cryogenic  
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[NASA-CASE-XGS-02441] c15 N70-41629  
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[NASA-CASE-XGS-01881] c09 N70-40123  
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negative transient voltages  
[NASA-CASE-XLA-07497] c09 N71-12514  
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[NASA-CASE-XLA-07391] c12 N71-17579  
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[NASA-CASE-IGS-04227] c15 N71-21744  
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[NASA-CASE-IGS-04531] c03 N69-24267  
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[NASA-CASE-XLE-02624] c12 N69-39988  
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[NASA-CASE-XLE-08569] c03 N71-23449  
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[NASA-CASE-LEW-10698-1] c15 N74-21063  
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[NASA-CASE-XLA-10470] c15 N72-21489  
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- GOLD COATINGS**  
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[NASA-CASE-XLE-10529] c14 N69-23191
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 [NASA-CASE-LAR-10686] c14 N71-28935  
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 [NASA-CASE-KSC-10513] c15 N72-25453  
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 Guidance analyzer having suspended spacecraft simulating sphere for astronavigation  
 [NASA-CASE-XNP-09572] c14 N71-15621  
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 [NASA-CASE-XAC-09489-1] c15 N71-26673  
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[NASA-CASE-NPO-11013] c11 N72-22247

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[NASA-CASE-XER-07894] c09 N71-18721  
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[NASA-CASE-ERC-10119] c26 N72-21701  
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[NASA-CASE-MPS-23047-1] c37 N76-18454

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[NASA-CASE-MPS-22343-1] c09 N74-34638  
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[NASA-CASE-MPS-22342-1] c33 N75-30428

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[NASA-CASE-XMP-00515] c15 N70-34664  
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[NASA-CASE-XMP-00339] c15 N70-39896  
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[NASA-CASE-XLA-05464] c21 N71-14132  
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[NASA-CASE-ARC-10716-1] c31 N73-32784  
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[NASA-CASE-NPO-13044-1] c14 N74-15094

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[NASA-CASE-GSC-11479-1] c21 N74-28097  
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## H

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Current measurement by use of Hall effect generator  
[NASA-CASE-XAC-01662] c14 N71-23037  
Brushless dc tachometer design with Hall effect crystals and output voltage magnitude proportional to rotor speed  
[NASA-CASE-MPS-20385] c09 N71-24904  
Development of Hall effect transducer for converting mechanical shaft rotations into proportional electrical signals  
[NASA-CASE-LAR-10620-1] c09 N72-25255  
Speed control system for dc motor equipped with brushless Hall effect device  
[NASA-CASE-MPS-20207-1] c09 N73-32107  
Hall effect magnetometer  
[NASA-CASE-LEW-11632-3] c14 N74-33944  
Hall effect magnetometer  
[NASA-CASE-LEW-11632-2] c35 N75-13213

## HALL GENERATORS

Current measurement by use of Hall effect

generator  
[NASA-CASE-XAC-01662] c14 N71-23037

## HALOGENS

Modification of polyurethanes with alkyl halide resins, inorganic salts, and encapsulated volatile and reactive halogen for fuel fire control  
[NASA-CASE-ARC-10098-1] c06 N71-24739

## HAMMERS

Exponential horn, copper plate, magnetic hammer, and anvil in apparatus for making diamonds  
[NASA-CASE-MPS-20698] c15 N72-20446

## HAND (ANATOMY)

Mechanically operated hand which can depress trigger using touch control device  
[NASA-CASE-MPS-20413] c15 N72-21463  
Therapeutic hand exerciser  
[NASA-CASE-LAR-11667-1] c52 N76-19785

## HANDLING EQUIPMENT

Supporting and protecting frame structure and plug for empty thrust chamber assembly, handling, and shipping  
[NASA-CASE-XMP-00580] c11 N70-35383  
Handling tool for printed circuit cards  
[NASA-CASE-MPS-20453] c15 N71-29133

## HARDENING (MATERIALS)

Method of heat treating age-hardenable alloys  
[NASA-CASE-XNP-01311] c26 N75-29236

## HARMONIC GENERATORS

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[NASA-CASE-NPO-11133] c10 N72-20223

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Helmet and torso tiedown mechanism for shortening pressure suits upon inflation  
[NASA-CASE-XMS-00784] c05 N71-12335  
One hand backpack harness  
[NASA-CASE-LAR-10102-1] c05 N72-23085  
Shoulder harness and lap belt restraint system  
[NASA-CASE-ARC-10519-2] c05 N75-25915

## HATCHES

Design and specifications of emergency escape system for spacecraft structures.  
[NASA-CASE-MSC-12086-1] c05 N71-12345

## HEART FUNCTION

Development of instantaneous reading tachometer for measuring electrocardiogram signal rate  
[NASA-CASE-MPS-20418] c14 N73-24473  
Ultrasonic biomedical measuring and recording apparatus --- for recording motion of internal organs such as heart valves  
[NASA-CASE-ARC-10597-1] c05 N74-20726

## HEART RATE

Digital cardiometer incorporating circuit for measuring heart rate of subject over predetermined portion of one minute also converting rate to beats per minute  
[NASA-CASE-XMS-02399] c05 N71-22896  
Development of instantaneous reading tachometer for measuring electrocardiogram signal rate  
[NASA-CASE-MPS-20418] c14 N73-24473  
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[NASA-CASE-MPS-20284-1] c05 N74-12778

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Thermionic converter for converting heat energy directly into electrical energy  
[NASA-CASE-XLE-01903] c22 N71-23599

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[NASA-CASE-XLE-00267] c28 N70-33356  
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[NASA-CASE-XMS-09571] c05 N71-19439  
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[NASA-CASE-GSC-10188-1] c23 N71-24725  
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[NASA-CASE-NPO-10831] c33 N72-20915  
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[NASA-CASE-NPO-10634] c23 N72-25619  
An improved heat exchanger --- suited for low volume flow  
[NASA-CASE-MPS-22991-1] c34 N75-10366

- Heat exchanger --- rocket combustion chambers and cooling systems  
[NASA-CASE-LEW-12252-1] c34 N75-19579
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[NASA-CASE-LEW-12441-1] c34 N75-19580
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[NASA-CASE-MSC-14143-1] c77 N75-20139
- Heat exchanger system and method  
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- Heat transfer device  
[NASA-CASE-MPS-22938-1] c34 N76-18374
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- Heat flux sensor assembly with proviso for heat shield to reduce radiative transfer between sensor elements  
[NASA-CASE-XMS-05909-1] c14 N69-27459
- Heat flux sensor adapted for mounting on aircraft or spacecraft to measure aerodynamic heat flux inflow to aircraft skin  
[NASA-CASE-XPR-03802] c33 N71-23085
- Radial heat flux transformer for use in heating and cooling processes  
[NASA-CASE-NPO-10828] c33 N72-17948
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- Electromagnetic energy detection by thermal sensor with vibrating electrode  
[NASA-CASE-XAC-10768] c09 N71-18830
- Specific wavelength colorimeter --- for measuring given solute concentration in test sample  
[NASA-CASE-MSC-14081-1] c14 N74-27860
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- Electric power system utilizing thermionic plasma diodes in parallel and heat pipes as cathodes  
[NASA-CASE-XMP-05843] c03 N71-11055
- Microwave power receiving antenna solving heat dissipation problems by construction of elements as heat pipe devices  
[NASA-CASE-MPS-20333] c09 N71-13486
- Double-wall isothermal cylinder containing heat transfer fluid thermal reservoir as spacecraft insulation cover  
[NASA-CASE-MPS-20355] c33 N71-25353
- Structural heat pipe --- for spacecraft wall thermal insulation system  
[NASA-CASE-GSC-11619-1] c34 N75-12222
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[NASA-CASE-NPO-13391-1] c34 N76-27515
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[NASA-CASE-LEW-11390-3] c25 N76-29379
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[NASA-CASE-XLA-00377] c33 N71-17610
- Manually activated heat pump for mechanically converting human operator output into heat energy  
[NASA-CASE-NPO-10677] c05 N72-11084
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[NASA-CASE-NPO-11417] c15 N73-24513
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[NASA-CASE-XLE-03307] c33 N71-14035
- Hydraulic actuator design for space deployment of heat radiators  
[NASA-CASE-MSC-11817-1] c15 N71-26611
- Development of method and equipment for testing heat radiative properties of material under controlled environmental conditions  
[NASA-CASE-MPS-20096] c14 N71-30026
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- Preparation of nickel alloys for jet turbine blades operating at high temperatures  
[NASA-CASE-XLE-00151] c17 N70-33283
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[NASA-CASE-XLE-00283] c17 N70-36616
- High temperature cobalt-base alloy resistant to corrosion by liquid metals and to sublimation in vacuum environment  
[NASA-CASE-XLE-02991] c17 N71-16025
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- Method of forming articles of manufacture from superalloy powders  
[NASA-CASE-LEW-10805-2] c15 N74-13179
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[NASA-CASE-MPS-22926-1] c25 N75-19380
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[NASA-CASE-MPS-22324-1] c27 N75-27160
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[NASA-CASE-ARC-10911-1] c35 N75-32426
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[NASA-CASE-XMS-04318] c15 N69-27871
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[NASA-CASE-XLA-00349] c33 N70-37979
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[NASA-CASE-XMS-04142] c31 N70-41631
- Transpirationally cooled heat ablation system for interplanetary spacecraft reentry shielding  
[NASA-CASE-XMS-02677] c31 N70-42075
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[NASA-CASE-XMP-08656] c06 N71-11242
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[NASA-CASE-XMP-08652] c06 N71-11243
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[NASA-CASE-XMP-05279] c18 N71-16124
- Development and characteristics of thermal radiation shielding of refractory metal foil used for induction furnace  
[NASA-CASE-XLE-03432] c33 N71-24145
- Design and development of spacecraft with outer shell structure heat shielding and built-in, removable excursion module  
[NASA-CASE-MSC-13047-1] c31 N71-25434
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[NASA-CASE-LEW-11549-1] c03 N74-33484
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[NASA-CASE-XMS-02087] c09 N70-41717
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[NASA-CASE-XMP-09701] c14 N71-26475
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[NASA-CASE-NPO-13581-1] c44 N75-27560
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[NASA-CASE-MPS-22744-1] c44 N76-24696
- Portable, linear-focused solar thermal energy collecting system  
[NASA-CASE-NPO-13734-1] c44 N76-26690
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[NASA-CASE-NPO-13810-1] c44 N76-26691
- Thermal energy storage system --- operating on superheating of liquids  
[NASA-CASE-MPS-23167-1] c44 N76-31667
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[NASA-CASE-XNP-00463] c33 N70-36847
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[NASA-CASE-XLA-00349] c33 N70-37979
- Apparatus for cryogenic liquid storage with heat transfer reduction and for liquid transfer at zero gravity conditions  
[NASA-CASE-XLE-00345] c15 N70-38020
- Method for improving heat transfer characteristics in nucleate boiling process  
[NASA-CASE-XMS-04268] c33 N71-16277
- Design and development of device for cooling inner conductor of coaxial cable  
[NASA-CASE-XNP-09775] c09 N71-20445
- Heat sensing instrument, using thermocouple junction connected under heavy conducting material  
[NASA-CASE-XLA-01551] c14 N71-22989
- Mixed liquid and vapor phase analyzer design with thermocouples for relative heat transfer measurement  
[NASA-CASE-NPO-10691] c14 N71-26199
- Development and characteristics of cooling system to maintain temperature of rack mounted electronic modules  
[NASA-CASE-MSC-12389] c33 N71-29052
- Development of method and equipment for testing heat radiative properties of material under controlled environmental conditions  
[NASA-CASE-MPS-20096] c14 N71-30026
- Manually activated heat pump for mechanically converting human operator output into heat energy  
[NASA-CASE-NPO-10677] c05 N72-11084
- High intensity radiant energy pulse source for calibrating heat transfer gages with thermoluminescent shutter activation  
[NASA-CASE-ARC-10178-1] c09 N72-17152
- Development of thermocouple instrument for measuring temperature of wall heated by flowing fluid without disturbing boundary layer  
[NASA-CASE-XLE-05230] c14 N72-27410
- Development and characteristics of thermal control system for maintaining constant temperature within spacecraft module with wide variations of component heat transfer  
[NASA-CASE-GSC-11018-1] c31 N73-30829
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[NASA-CASE-NPO-12070-1] c28 N73-32606
- Electrostatically controlled heat transfer system for conducting thermal energy  
[NASA-CASE-NPO-11942-1] c33 N73-32818
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[NASA-CASE-NPO-11120-1] c33 N74-18552
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[NASA-CASE-MPS-22991-1] c34 N75-10366
- HEAT TRANSMISSION**
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[NASA-CASE-GSC-11434-1] c14 N74-27859
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[NASA-CASE-LEW-11227-1] c73 N75-30876
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[NASA-CASE-XLE-10466] c17 N69-25147
- Oven for heat treating heat shields  
[NASA-CASE-XMS-04318] c15 N69-27871
- Vacuum method for molding thermosetting compounds used as ablative materials  
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- HOUSINGS**  
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[NASA-CASE-MSC-12168-1] c09 N71-18600
- Open type urine receptacle with tubular housing  
[NASA-CASE-MSC-12324-1] c05 N72-22093
- Readily assembled universal environment housing for electronic equipment  
[NASA-CASE-KSC-10031] c15 N72-22486
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[NASA-CASE-NPO-11479] c15 N73-13462
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[NASA-CASE-MFS-21136-1] c23 N74-18323
- Heat transfer device  
[NASA-CASE-NPO-11120-1] c33 N74-18552
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[NASA-CASE-MSC-12111-1] c02 N71-11039
- HUGENIOT EQUATION OF STATE**  
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[NASA-CASE-LAR-11059-1] c76 N75-12810
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[NASA-CASE-XLA-00229] c12 N70-33305
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Method and apparatus for applying compressional forces to skeletal structure of subject to simulate force during ambulatory conditions  
[NASA-CASE-ARC-10100-1] c05 N71-24738
- Automatic braking device for rapidly transferring humans or materials from elevated location  
[NASA-CASE-XKS-07814] c15 N71-27067
- An improved load handling device  
[NASA-CASE-MFS-23233-1] c54 N75-33725
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[NASA-CASE-XMS-03371] c05 N70-42000
- Electromedical garment, applying vectorcardiologic type electrodes to human torsos for data recording during physical activity  
[NASA-CASE-XPR-10856] c05 N71-11189
- Thermoregulating with cooling flow pipe network for humans  
[NASA-CASE-XMS-10269] c05 N71-24147
- Tilting table for testing human body in variety of positions while exercising on ergometer or other biomedical devices  
[NASA-CASE-MFS-21010-1] c05 N73-30078
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[NASA-CASE-XMS-01240] c05 N70-35152
- Harness assembly adapted to support man on ground based apparatus which simulates weightlessness  
[NASA-CASE-MFS-14671] c05 N71-12341
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[NASA-CASE-XAC-03777] c10 N71-15909
- Remote control device operated by movement of finger tips for manual control of spacecraft attitude  
[NASA-CASE-XAC-02405] c09 N71-16089
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[NASA-CASE-MSC-12243-1] c05 N71-24728
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[NASA-CASE-MSC-13282-1] c05 N71-24729
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[NASA-CASE-KSC-10278] c05 N72-16015
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[NASA-CASE-MSC-13604-1] c05 N73-13114
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[NASA-CASE-MFS-22102-1] c05 N74-20725
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 [NASA-CASE-NPO-13201-1] c37 N75-15050  
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 Solid propellant containing hydrazinium nitroformate oxidizer and polymeric hydrocarbon binder  
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 Catalyst bed ignition system for hydrazine propellants  
 [NASA-CASE-XNP-00876] c28 N70-41311  
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 [NASA-CASE-XNP-03059-2] c18 N71-15688  
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 [NASA-CASE-NPO-11433] c18 N71-31140  
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 [NASA-CASE-XLE-00010] c15 N70-33382  
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 [NASA-CASE-NPO-13342-2] c44 N76-29700  
 Hydrogen rich gas generator  
 [NASA-CASE-NPO-13464-2] c44 N76-29704
- HYDROCARBONS**  
 Solid propellant containing hydrazinium nitroformate oxidizer and polymeric hydrocarbon binder  
 [NASA-CASE-NPO-12015] c27 N73-16764  
 Hydrogen rich gas generator  
 [NASA-CASE-NPO-13342-1] c37 N76-16446  
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 [NASA-CASE-XGS-01419] c03 N70-41864  
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[NASA-CASE-XLE-00685] c28 N70-41992
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[NASA-CASE-XLA-05378] c11 N71-21475
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[NASA-CASE-XMS-02184] c15 N71-20813  
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[NASA-CASE-XAC-03107] c23 N71-16098
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[NASA-CASE-XLA-01291] c33 N70-36617  
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[NASA-CASE-XLA-06095] c01 N69-39981  
Design of inflatable life raft for aircrafts and boats  
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Lightweight life preserver without fastening devices  
[NASA-CASE-XMS-00864] c05 N70-36493  
Inflatable honeycomb panel element for lightweight structures usable in space stations and other construction  
[NASA-CASE-XLA-00204] c32 N70-36536  
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[NASA-CASE-XMS-00893] c07 N70-40063  
Temperature sensor warning system for pneumatic tires of aircraft and ground vehicles  
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Conforming polisher for aspheric surfaces of revolution with inflatable tube  
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Technique for making foldable, inflatable, plastic honeycomb core panels for use in building and bridge structures, light and radio wave reflectors, and spacecraft  
[NASA-CASE-XLA-03492] c15 N71-22713  
Collapsible antenna boom and coaxial transmission line having inflatable inner tube  
[NASA-CASE-MPS-20068] c07 N71-27191  
Space expandable tether device for use as passageway between two docked spacecraft  
[NASA-CASE-XMS-10993] c15 N71-28936  
Inflatable rocket engine nozzle skirt with transpiration cooling  
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- INFORMATION RETRIEVAL**  
Multiple pattern holographic information storage and readout system  
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- INFRARED DETECTORS**  
Temperature sensitive capacitor device for detecting very low intensity infrared radiation  
[NASA-CASE-XNP-09750] c14 N69-39937  
Sight switch using infrared source and sensor mounted beside eye  
[NASA-CASE-XMP-03934] c09 N71-22985  
Characteristics of infrared photodetectors manufactured from semiconductor material irradiated by electron beam  
[NASA-CASE-LAR-10728-1] c14 N73-12445  
Doped Josephson tunneling junction for use in a sensitive IR detector  
[NASA-CASE-NPO-13348-1] c33 N75-31332

**INFRARED INSTRUMENTS**

Infrared scanning system for maintaining spacecraft orientation with earth reference  
[NASA-CASE-XLA-00120] c21 N70-33181

**INFRARED LASERS**

Monitoring atmospheric pollutants with a heterodyne radiometer transmitter-receiver  
[NASA-CASE-NPO-11919-1] c14 N74-11284

**INFRARED RADIATION**

High speed infrared furnace  
[NASA-CASE-XLE-10466] c17 N69-25147

High field Cds detector for infrared radiation  
[NASA-CASE-LAR-11027-1] c14 N74-18088

**INFRARED SCANNERS**

Infrared scanning system for maintaining spacecraft orientation with earth reference  
[NASA-CASE-XLA-00120] c21 N70-33181

Method and equipment for locating earth infrared horizon from space, independent of season and latitude  
[NASA-CASE-LAR-10726-1] c14 N73-20475

**INFRARED SPECTRA**

Diatomic infrared gasdynamic laser --- for producing different wavelengths  
[NASA-CASE-ARC-10370-1] c36 N75-31426

**INFRARED SPECTROMETERS**

Telespectrograph for analyzing upper atmosphere by tracking bodies reentering atmosphere at high velocities  
[NASA-CASE-XLA-03273] c14 N71-18699

**INFRARED SPECTROSCOPY**

Polymer coatings for moisture protection of optical windows in infrared spectroscopy  
[NASA-CASE-ARC-10749-1] c23 N73-32542

**INFRASONIC FREQUENCIES**

Resonant infrasonic gauging device for measuring liquid quantity in closed bladderless reservoir  
[NASA-CASE-MSC-11847-1] c14 N72-11363

**INITIATORS (EXPLOSIVES)**

Piezoelectric means for missile stage separation indication and stage initiation  
[NASA-CASE-XLA-00791] c03 N70-39930

Electroexplosive safe-arm initiator using electric driven electromagnetic coils and magnets to align charge  
[NASA-CASE-LAR-10372] c09 N71-18599

**INJECTION**

Foam insulation thickness measuring and injection device for spacecraft applications  
[NASA-CASE-MFS-20261] c14 N71-27005

**INJECTORS**

Propellant injectors for rocket combustion chambers  
[NASA-CASE-XLE-00103] c28 N70-33241

Fuel injection system for maximum combustion efficiency of rocket engines  
[NASA-CASE-XLE-00111] c28 N70-38199

Injector manifold assembly for bipropellant rocket engines providing for fuel propellant to serve as coolant  
[NASA-CASE-XMP-00148] c28 N70-38710

Method and apparatus for use in forming highly collimated beam of microparticles with high charge to mass ratio and injecting beam into electrostatic accelerating tube  
[NASA-CASE-XGS-06628] c24 N71-16213

Control valve and coaxial variable injector for controlling bipropellant mixture ratio and flow  
[NASA-CASE-XMP-09702] c15 N71-17654

Rocket engine injector orifice to accommodate changes in density, velocity, and pressure, thereby maintaining constant mass flow rate of propellant into rocket combustion chamber  
[NASA-CASE-XLE-03157] c28 N71-24736

Bipropellant injector with pair of concave deflector plates  
[NASA-CASE-XNP-09461] c28 N72-23809

Coaxial injector for mixing liquid propellants within combustion chambers  
[NASA-CASE-NPO-11095] c15 N72-25455

Improved injector with porous plug for bubbles of gas into feed lines of electrically conductive liquid  
[NASA-CASE-NPO-11377] c15 N73-27406

Splash groove fuel injector  
[NASA-CASE-XLE-12417-1] c07 N76-22198

**INLET FLOW**

High pressure four-way valve with O ring adapted to pass across inlet port

[NASA-CASE-XNP-00214] c15 N70-36908  
Method for maintaining good performance in gas turbine during air flow distortion

[NASA-CASE-XLE-10286-1] c28 N71-28915  
Airflow control system for supersonic inlets

[NASA-CASE-XLE-11188-1] c02 N74-20646  
Variably positioned guide vanes for aerodynamic choking

[NASA-CASE-LAR-10642-1] c28 N74-31270  
Method for fabricating a mass spectrometer inlet leak

[NASA-CASE-GSC-12077-1] c35 N76-13465  
Shock position sensor for supersonic inlets --- measuring pressure in the throat of a supersonic inlet

[NASA-CASE-XLE-11915-1] c35 N76-14431  
**INLET PRESSURE**

Fluid jet amplifier with fluid from jet nozzle deflected by inlet pressure  
[NASA-CASE-XLE-03512] c12 N69-21466

Shock position sensor for supersonic inlets --- measuring pressure in the throat of a supersonic inlet  
[NASA-CASE-XLE-11915-1] c35 N76-14431

**INOCULATION**  
Automatic inoculating apparatus --- includes movable carriage, drive motor, and swabbing motor  
[NASA-CASE-LAR-11074-1] c51 N75-13502

**INORGANIC COATINGS**  
Composition of diffuse reflective coating containing sodium chloride in combination with diol solvent and organic wetting and drying agents  
[NASA-CASE-GSC-11214-1] c06 N73-13128

Inorganic-organic battery separator for alkaline batteries  
[NASA-CASE-XLE-12649-1] c44 N76-31674

**INORGANIC COMPOUNDS**  
Inorganic ion exchange membrane electrolytes for fuel cell use  
[NASA-CASE-XNP-04264] c03 N69-21337

Preparation of inorganic solid film lubricants with long wear life and stability in aerospace environments  
[NASA-CASE-XMP-03988] c15 N71-21403

Modification of polyurethanes with alkyl halide resins, inorganic salts, and encapsulated volatile and reactive halogen for fuel fire control  
[NASA-CASE-ARC-10098-1] c06 N71-24739

Inorganic thermal control and solar reflector coatings  
[NASA-CASE-MFS-20011] c18 N72-22566

**INPUT**  
Apparatus for filtering input signals  
[NASA-CASE-NPO-10198] c09 N71-24806

RC networks with voltage amplifier, RC input circuit, and positive feedback  
[NASA-CASE-ARC-10020] c10 N72-17172

**INPUT/OUTPUT ROUTINES**  
Analog to digital converter  
[NASA-CASE-NPO-13385-1] c33 N76-18345

**INSERTION LOSS**  
High impedance alternating current sensing transformer device between two bolometers for measuring insertion loss of test component  
[NASA-CASE-XNP-01193] c10 N71-16057

**INSTALLING**  
Device for installing rocket engines  
[NASA-CASE-MFS-19220-1] c20 N76-22296

**INSTRUMENT ERRORS**  
Solar radiation direction detector and device for compensating degradation of photocells  
[NASA-CASE-XLA-00183] c14 N70-40239

**INSTRUMENT FLIGHT RULES**  
Controlled visibility device for simulating poor visibility conditions in training pilots in instrument landing and flight procedures  
[NASA-CASE-XPR-04147] c11 N71-10748

**INSTRUMENT ORIENTATION**  
Sensor consisting of photocells mounted on pyramidal base for improved pointing accuracy of planetary trackers  
[NASA-CASE-XNP-04180] c07 N69-39736

Inertial gimbal alignment system for spacecraft guidance  
[NASA-CASE-XMP-01669] c21 N71-23289

Optical gauging system for monitoring machine tool alignment  
[NASA-CASE-XAC-09489-1] c15 N71-26673

Development of solar energy powered heliotrope assembly to orient solar array toward sun  
[NASA-CASE-GSC-10945-1] c21 N72-31637

**INSTRUMENT PACKAGES**

Apparatus for ejecting covers of instrument packages using differential pressure principle  
[NASA-CASE-XMP-04132] c15 N69-27502

Removable potting compound for instrument shock protection  
[NASA-CASE-XLA-00482] c15 N70-36409

Plastic foam generator for space vehicle instrument payload package flotation in water landing  
[NASA-CASE-XLA-00838] c03 N70-36778

High velocity guidance and spin stabilization gyro controlled jet reaction system for launch vehicle payloads  
[NASA-CASE-XLA-01339] c31 N71-15692

Ethylene oxide sterilization and encapsulating process for sterile preservation of instruments and solid propellants  
[NASA-CASE-XNP-09763] c14 N71-20461

**INSTRUMENTS**

Method and apparatus for bowing of instrument panels to improve radio frequency shielded enclosure  
[NASA-CASE-XMP-09422] c07 N71-19436

Design and development of pressure sensor for measuring differential pressures of few pounds per square inch  
[NASA-CASE-XNP-01974] c14 N71-22752

Development of temperature compensated thrust measuring gage for measuring forces as function of time in environment with varying temperature  
[NASA-CASE-XGS-02319] c14 N71-22965

Development and characteristics of self-calibrating displacement transducer for measuring magnitude and frequency of displacement of bodies  
[NASA-CASE-XLA-00781] c09 N71-22999

Design, development, and characteristics of pressure and temperature sensor operating immersed in fluid flow  
[NASA-CASE-LEW-10281-1] c14 N72-17327

Development of apparatus for mounting scientific experiments in spacecraft to permit utilization without maneuvering spacecraft  
[NASA-CASE-MSC-12372-1] c31 N72-25842

**INSULATED STRUCTURES**

Low thermal loss piping arrangement for moving cryogenic media through double chamber structure  
[NASA-CASE-XNP-08882] c15 N69-39935

**INSULATION**

Electrode attached to helmets for detecting low level signals from skin of living creatures  
[NASA-CASE-ARC-10043-1] c05 N71-11193

Characteristics of foamed-in-place ceramic refractory insulating material and method of fabrication  
[NASA-CASE-XGS-02435] c18 N71-22998

Method of fabricating equal length insulated wire  
[NASA-CASE-FRC-10038] c15 N72-20444

Inductance device with vacuum insulation and materials of low gas entrapping capability  
[NASA-CASE-LEW-10330-1] c09 N72-27226

Insulated electrocardiographic electrodes --- without paste electrolyte  
[NASA-CASE-MSC-14339-1] c05 N75-24716

Silica reusable surface insulation  
[NASA-CASE-ARC-10721-1] c27 N76-22376

Two-component ceramic coating for silica insulation  
[NASA-CASE-MSC-14270-1] c27 N76-22377

Three-component ceramic coating for silica insulation  
[NASA-CASE-MSC-14270-2] c27 N76-23426

**INSULATORS**

High voltage insulators for direct current in acceleration system of electrostatic thruster  
[NASA-CASE-XLE-01902] c28 N71-10574

High temperature resistant cermet and ceramic compositions --- for use in thermionic converters or diodes  
[NASA-CASE-NPO-13690-1] c27 N76-13294

**INTAKE SYSTEMS**

Deflector for preventing objects from entering nacelle inlets of jet aircraft  
[NASA-CASE-XLE-00388] c28 N70-34788

Jet engine air intake system  
[NASA-CASE-ARC-10761-1] c07 N75-31108

**INTEGRATED CIRCUITS**

Computer circuit performing both counting and shifting logic operations also capable of miniaturization and integration in basic circuits  
[NASA-CASE-XNP-01753] c08 N71-22897

Development and characteristics of electric circuitry for detecting electrical pulses rise time and amplitude  
[NASA-CASE-XMP-08804] c09 N71-24717

Method and apparatus for testing integrated circuit microtab welds  
[NASA-CASE-ARC-10176-1] c15 N72-21464

Single integrated circuit chip with field effect transistor  
[NASA-CASE-GSC-10835-1] c09 N72-33205

Integrated circuit tangent function generator  
[NASA-CASE-MSC-13907-1] c10 N73-26230

Inverted geometry transistor for use with monolithic integrated circuit  
[NASA-CASE-ARC-10330-1] c09 N73-32112

Integrated circuit package with lead structure and method of preparing the same  
[NASA-CASE-MPS-21374-1] c10 N74-12951

Integrated P-channel MOS gyrator  
[NASA-CASE-MPS-22343-1] c09 N74-34638

Four phase logic systems --- including integrated microcircuits  
[NASA-CASE-MSC-14240-1] c33 N75-14957

Integrable power gyrator --- with Z-matrix design using parallel transistors  
[NASA-CASE-MPS-22342-1] c33 N75-30428

**INTEGRATORS**

Solid state operational integrator  
[NASA-CASE-NPO-10230] c09 N71-12520

Variable duration pulse integrator design for integrating pulse duration modulated pulses with elimination of ripple content  
[NASA-CASE-XLA-01219] c10 N71-23084

Solid state integrator for converting variable width pulses into analog voltage  
[NASA-CASE-XLA-03356] c10 N71-23315

Feedback integrating circuit with grounded capacitor for signal processing  
[NASA-CASE-XAC-10607] c10 N71-23669

High speed phase detector design indicating phase relationship between two square wave input signals  
[NASA-CASE-XNP-01306-2] c09 N71-24596

**INTERFEROMETERS**

Describing device for velocity control of electromechanical drive mechanism of scanning mirror of interferometer  
[NASA-CASE-XGS-03532] c14 N71-17627

Incremental motion drive system applied to interferometer components  
[NASA-CASE-XNP-08897] c15 N71-17694

Design and development of optical interferometer with laser light source for application to schlieren systems  
[NASA-CASE-XLA-04295] c16 N71-24170

Digital sensor for counting fringes produced by interferometers with improved sensitivity and one photomultiplier tube to eliminate alignment problem  
[NASA-CASE-LAR-10204] c14 N71-27215

Two beam interferometer-polarimeter  
[NASA-CASE-NPO-11239] c14 N73-12446

Interferometer prism and control system for precisely determining direction to remote light source  
[NASA-CASE-ARC-10278-1] c14 N73-25463

Method and apparatus for providing a servodrive signal in a high speed stepping interferometer  
[NASA-CASE-NPO-13569-1] c35 N75-21600

High resolution Fourier interferometer-spectrophotopolarimeter  
[NASA-CASE-NPO-13604-1] c35 N76-31490

**INTERMEDIATE FREQUENCY AMPLIFIERS**

Multichannel logarithmic RF level detector  
[NASA-CASE-LAR-11021-1] c32 N76-14321

**INTERMETALLICS**

Controlled diffusion reaction process for

- masking-substrate of twisted multifilament  
superconductive ribbon  
[NASA-CASE-LEW-11726-1] c26 N73-26752  
Production of intermetallic compounds by effect  
of shock waves from explosions and compaction  
of powder  
[NASA-CASE-MPS-20861-1] c18 N73-32437
- INTERNAL COMBUSTION ENGINES**  
Variable displacement fuel pump for internal  
combustion engines  
[NASA-CASE-MSC-12139-1] c28 N71-14058  
Detonation reaction engine comprising outer  
housing enclosing pair of inner walls for  
continuous flow  
[NASA-CASE-XMP-06926] c28 N71-22983  
Development of system for preheating vaporized  
fuel for use with internal combustion engines  
[NASA-CASE-NPO-12072] c28 N72-22772  
A zirconium modified nickel-copper alloy  
[NASA-CASE-LEW-12245-1] c26 N75-26087  
System for minimizing internal combustion engine  
pollution emission  
[NASA-CASE-NPO-13402-1] c37 N76-18457
- INTERPLANETARY SPACE**  
Compact heat shielding for interplanetary space  
vehicles  
[NASA-CASE-XMS-00486] c33 N70-33344  
Active RC filter networks and amplifiers for  
deep space magnetic field measurement  
[NASA-CASE-XAC-05462-2] c10 N72-17171
- INTERPLANETARY SPACECRAFT**  
Transpirationally cooled heat ablation system  
for interplanetary spacecraft reentry shielding  
[NASA-CASE-XMS-02677] c31 N70-42075
- INTERPLANETARY TRAJECTORIES**  
Table structure and rotating magnet system  
simulating gravitational forces on spacecraft  
and displaying trajectories between Earth,  
Venus, and Mercury  
[NASA-CASE-XNP-00708] c14 N70-35394
- INTRA-VEHICULAR ACTIVITY**  
Intra- and extravehicular life support space  
suite for Apollo astronauts  
[NASA-CASE-MSC-12609-1] c05 N73-32012
- INVENTIONS**  
Optical scanner  
[NASA-CASE-LAR-11711-1] c74 N76-23985
- INVERTED CONVERTERS (DC TO AC)**  
Inverter ratio failure detector  
[NASA-CASE-NPO-13160-1] c14 N74-18090  
Variable frequency inverter for ac induction  
motors with torque, speed and braking control  
[NASA-CASE-MPS-22088-1] c33 N75-15874
- INVERTERS**  
Silicon controlled rectifier inverter with  
compensation of transients to avoid false gating  
[NASA-CASE-XLA-08507] c09 N69-39984  
Inverter oscillator with voltage feedback  
[NASA-CASE-NPO-10760] c09 N72-25254
- IODINE**  
Method of producing output voltage from  
photovoltaic cell using poly-N-vinyl carbazole  
complexed with iodine  
[NASA-CASE-NPO-10373] c03 N71-18698  
Gallium arsenide solar cell preparation by  
surface deposition of cuprous iodide on thin  
n-type polycrystalline layers and heating in  
iodine vapor  
[NASA-CASE-XNP-01960] c09 N71-23027  
Iodine generator for reclaimed water purification  
[NASA-CASE-MSC-14632-1] c54 N75-25594  
Method of producing I-123  
[NASA-CASE-LEW-11390-4] c72 N76-26967
- IODINE ISOTOPES**  
Apparatus for producing high purity I-123 from  
Xe-123 by bombarding tellurium target with  
cyclotron beam  
[NASA-CASE-LEW-10518-2] c24 N72-28714  
Production of I-123 for use as  
radiopharmaceutical for low radiation exposure  
[NASA-CASE-LEW-10518-1] c24 N72-33681  
Apparatus for producing high purity I-123 ---  
for thyroid measurement  
[NASA-CASE-LEW-10518-3] c15 N74-10476  
Method of producing I-123 --- by bombardment of  
cesium causing spallation  
[NASA-CASE-LEW-11390-2] c25 N76-27383  
Production of I-123  
[NASA-CASE-LEW-11390-3] c25 N76-29379
- ION ACCELERATORS**  
Helium outgassing process for fused glass  
coating on ion accelerator grid  
[NASA-CASE-LEW-10278-1] c15 N71-28582
- ION BEAMS**  
Ion beam deflector system for electronic thrust  
vector control for ion propulsion yaw, pitch,  
and roll forces  
[NASA-CASE-LEW-10689-1] c28 N71-26173  
Dispensing targets for ion beam particle  
generators  
[NASA-CASE-NPO-13112-1] c11 N74-26767  
Sputtering holes with ion beamlets  
[NASA-CASE-LEW-11646-1] c28 N74-31269  
Ion beam thruster shield  
[NASA-CASE-LEW-12082-1] c20 N75-32166  
Method of constructing dish ion thruster grids  
to provide hole array spacing compensation  
[NASA-CASE-LEW-11876-1] c20 N76-21276
- ION CHARGE**  
Quadrupole mass spectrometer using noise  
spectrum for ion separation and identification  
[NASA-CASE-XNP-04231] c14 N73-32325
- ION CONCENTRATION**  
Deposition of alloy films --- on irregularly  
shaped metal object  
[NASA-CASE-LEW-11262-1] c18 N74-13270
- ION CURRENTS**  
System for monitoring presence of neutrals in  
streams of ions - ion engine control  
[NASA-CASE-XNP-02592] c24 N71-20518
- ION CYCLOTRON RADIATION**  
Ion and electron detector for use in an ICR  
spectrometer  
[NASA-CASE-NPO-13479-1] c14 N74-32890
- ION DENSITY (CONCENTRATION)**  
Method and apparatus for measurement of trap  
density and energy distribution in dielectric  
films  
[NASA-CASE-NPO-13443-1] c76 N76-20994
- ION ENGINES**  
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[NASA-CASE-XLE-00702] c14 N70-40203  
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[NASA-CASE-XLE-00519] c28 N70-41576  
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[NASA-CASE-XLE-01124] c28 N71-14043  
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[NASA-CASE-LEW-10106-1] c28 N71-26642
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[NASA-CASE-LEW-10770-1] c28 N72-22770
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[NASA-CASE-ARC-10017-1] c14 N72-29464
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- Soft X-ray laser using crystal channels as distributed feedback cavities --- zeolites  
[NASA-CASE-NPO-13532-1] c36 N75-15973
- LASER DOPPLER VELOCIMETERS**
- Dual wavelength scanning Doppler velocimeter --- without perturbation of flow fields  
[NASA-CASE-ARC-10637-1] c35 N75-16783
- Focused laser Doppler velocimeter  
[NASA-CASE-MFS-23178-1] c35 N76-13459
- Combined dual scatter, local oscillator laser Doppler velocimeter  
[NASA-CASE-ARC-10642-1] c36 N76-14447
- Pseudo-backscatter laser Doppler velocimeter employing antiparallel reflector in the forward direction  
[NASA-CASE-ARC-10970-1] c35 N76-24530
- LASER HEATING**
- Electric power generation system directory from laser power  
[NASA-CASE-NPO-13308-1] c36 N75-30524
- LASER MATERIALS**
- Laser head for simultaneous optical pumping of several dye lasers --- with single flash lamp  
[NASA-CASE-LAR-11341-1] c36 N75-19655
- LASER MODE LOCKING**
- Laser system with an antiresonant optical ring  
[NASA-CASE-HQN-10844-1] c36 N75-19653
- Dually mode locked Nd:YAG laser  
[NASA-CASE-GSC-11746-1] c36 N75-19654
- A length controlled stabilized mode-lock Nd:YAG laser  
[NASA-CASE-GSC-11571-1] c36 N76-17384
- LASER MODES**
- Xenon flashlamp driver system for optical laser pumping  
[NASA-CASE-ERC-10283] c16 N72-25485
- Acoustically controlled distributed feedback laser  
[NASA-CASE-NPO-13175-1] c36 N75-31427
- LASER OUTPUTS**
- Method and apparatus using temperature control for wavelength tuning of liquid lasers  
[NASA-CASE-ERC-10187] c16 N69-31343
- Describing laser Doppler velocimeter for measuring mean velocity and turbulence of fluid flow  
[NASA-CASE-MFS-20386] c21 N71-19212
- Development of apparatus for amplitude modulation of diode laser by periodic discharge of direct current power supply  
[NASA-CASE-XMS-04269] c16 N71-22895
- Doppler shifted laser beam as fluid velocity sensor  
[NASA-CASE-XAC-10770-1] c16 N71-24828
- Calibrator for measuring and modulating or demodulating laser outputs  
[NASA-CASE-XLA-03410] c16 N71-25914
- Method and apparatus for optically modulating light or microwave beam  
[NASA-CASE-GSC-10216-1] c23 N71-26722
- Laser machining device with dielectric functioning as beam waveguide for mechanical and medical applications  
[NASA-CASE-HQN-10541-2] c15 N71-27135
- Optical communication system with gas filled waveguide for laser beam transmission  
[NASA-CASE-HQN-10541-4] c16 N71-27183
- Design and development of multichannel laser remote control system using modulated helium-neon laser as transmitter and light collector as receiving antenna  
[NASA-CASE-LAR-10311-1] c16 N73-16536
- Performance of ac power supply developed for CO2 laser system  
[NASA-CASE-GSC-11222-1] c16 N73-32391
- Thermomagnetic recording and magneto-optic playback system having constant intensity laser beam control  
[NASA-CASE-NPO-11317-2] c16 N74-13205
- Apparatus for scanning the surface of a cylindrical body  
[NASA-CASE-NPO-11861-1] c14 N74-20009
- Optically detonated explosive device  
[NASA-CASE-NPO-11743-1] c33 N74-27425
- Clear air turbulence detector  
[NASA-CASE-MFS-21244-1] c36 N75-15028
- Dually mode locked Nd:YAG laser  
[NASA-CASE-GSC-11746-1] c36 N75-19654
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[NASA-CASE-LAR-11341-1] c36 N75-19655
- Acoustically controlled distributed feedback laser  
[NASA-CASE-NPO-13175-1] c36 N75-31427
- Focused laser Doppler velocimeter  
[NASA-CASE-MFS-23178-1] c35 N76-13459
- A length controlled stabilized mode-lock Nd:YAG laser  
[NASA-CASE-GSC-11571-1] c36 N76-17384
- Optical noise suppression device and method --- laser light exposing film  
[NASA-CASE-MSC-12640-1] c74 N76-31998
- LASER RANGER/TRACKER**
- Laser beam projector for continuous, precise alignment between target, laser generator, and astronomical telescope during tracking  
[NASA-CASE-NPO-11087] c23 N71-29125
- LASERS**
- Laser device for removing material from rotating object for dynamic balancing  
[NASA-CASE-MFS-11279] c16 N71-20400
- Design and development of optical interferometer with laser light source for application to schlieren systems  
[NASA-CASE-XLA-04295] c16 N71-24170

- Self-generating optical frequency waveguide  
[NASA-CASE-HQN-10541-1] c07 N71-26291
- Design and characteristics of laser camera system with diffusion filter of small particles with average diameter larger than wavelength of laser light  
[NASA-CASE-NPO-10417] c16 N71-33410
- Optical sensing of supersonic flows by correlating deflections in laser beams through flow  
[NASA-CASE-MPS-20642] c14 N72-21407
- Laser technique for breaking ice in ship path  
[NASA-CASE-LAR-10815-1] c16 N72-22520
- Design of precision vertical alignment system using laser with gravitationally sensitive cavity  
[NASA-CASE-ARC-10444-1] c16 N73-33397
- Tunable cavity resonator with ramp shaped supports  
[NASA-CASE-HQN-10790-1] c16 N74-11313
- Short range laser obstacle detector --- for surface vehicles using laser diode array  
[NASA-CASE-NPO-11856-1] c16 N74-15145
- Long range laser traversing system  
[NASA-CASE-GSC-11262-1] c16 N74-21091
- Double discharge metal vapor laser with metal halide as a lasant  
[NASA-CASE-NPO-13448-1] c16 N74-34012
- Deep trap, laser activated image converting system  
[NASA-CASE-NPO-13131-1] c36 N75-19652
- Laser system with an antiresonant optical ring  
[NASA-CASE-HQN-10844-1] c36 N75-19653
- Acoustically controlled distributed feedback laser  
[NASA-CASE-NPO-13175-1] c36 N75-31427
- Method and apparatus for splitting a beam of energy  
[NASA-CASE-GSC-12083-1] c36 N76-15451
- Method and apparatus for controlling the contrast of a photographic transparency  
[NASA-CASE-GSC-11989-1] c35 N76-16395
- Wideband heterodyne receiver for a laser communication system  
[NASA-CASE-GSC-12053-1] c36 N76-20466
- Opto-mechanical subsystem with temperature compensation through isothermal design  
[NASA-CASE-GSC-12059-1] c39 N76-23625
- Method and apparatus for generating coherent radiation in the ultra-violet region and above by use of distributed feedback  
[NASA-CASE-NPO-13346-1] c36 N76-29575
- Polarization compensator for optical communications  
[NASA-CASE-GSC-11782-1] c74 N76-30053
- LATCHES**
- Bolt-latch mechanism for releasing despin weights from space vehicle  
[NASA-CASE-XLA-00679] c15 N70-38601
- Transparent polycarbonate resin, shell helmet and latch design for high altitude and space flight  
[NASA-CASE-XMS-04935] c05 N71-11190
- Quick disconnect latch and handle combination for mounting articles on walls or supporting bases in spacecraft under zero gravity conditions  
[NASA-CASE-MPS-11132] c15 N71-17649
- Design, development, and characteristics of latching mechanism for operation in limited access areas  
[NASA-CASE-XMS-03745] c15 N71-21076
- Latching mechanism with pivoting catch and self-contained spring ejector  
[NASA-CASE-XLA-03538] c15 N71-24897
- Latch for fastening spacecraft docking rings  
[NASA-CASE-MSC-15474-1] c15 N71-26162
- Latch mechanism  
[NASA-CASE-MSC-12549-1] c15 N74-27903
- Latching device  
[NASA-CASE-MPS-21606-1] c37 N75-19685
- Load regulating latch  
[NASA-CASE-MSC-19535-1] c37 N76-15463
- LATERAL CONTROL**
- Three-axis controller operated by hand-wrist motion for yaw, pitch, and roll control  
[NASA-CASE-XAC-01404] c05 N70-41581
- Star sensor system for roll attitude control of spacecraft  
[NASA-CASE-INP-01307] c21 N70-41856
- Supersonic or hypersonic vehicle control system comprising elevons with hinge line sweep and free of adverse aerodynamic cross coupling  
[NASA-CASE-XLA-08967] c02 N71-27088
- Transonic and supersonic aircraft wherein the problems of roll control at high angles of attack are minimized  
[NASA-CASE-LAR-11868-1] c08 N76-19159
- LATERAL STABILITY**
- Strapped down gyroscope aligned with sun and star tracker optical axis calibrating roll, yaw and pitch values  
[NASA-CASE-ARC-10716-1] c31 N73-32784
- Variable dihedral shuttle orbiter --- for flight at hypersonic and subsonic speeds  
[NASA-CASE-LAR-10706-1] c18 N75-16613
- LATHES**
- Rotary spindle lathe attachments for machining geometrical cones  
[NASA-CASE-XMS-04292] c15 N71-22722
- Lathe tool and holder combination for machining resin impregnated fiberglass cloth laminates  
[NASA-CASE-XLA-10470] c15 N72-21489
- LAUNCH ESCAPE SYSTEMS**
- Emergency escape cabin system for launch towers  
[NASA-CASE-XKS-02342] c05 N71-11199
- Ejector for separating astronaut from ejection seat during prelaunch or initial launch phase of flight  
[NASA-CASE-XMS-04625] c05 N71-20718
- LAUNCH VEHICLES**
- Support techniques for restraint of slender bodies such as launch vehicles  
[NASA-CASE-XLA-02704] c11 N69-21540
- Microleak detector mounted on weld seam of propellant tank of launch vehicle  
[NASA-CASE-XMP-02307] c14 N71-10779
- LAUNCHING PADS**
- Launch pad missile release system with bending moment change rate reduction in thrust distribution structure at liftoff  
[NASA-CASE-XMP-03198] c30 N70-40353
- Remotely actuated quick disconnect for tubular umbilical conduits used to transfer fluids from ground to rocket vehicle  
[NASA-CASE-XLA-01396] c03 N71-12259
- Portable equipment for validating C band launch pad antennas and transmission lines used for spacecraft checkout  
[NASA-CASE-XKS-10543] c07 N71-26292
- LEAD (METAL)**
- Lead-oxygen dc power supply system having a closed loop oxygen and water system  
[NASA-CASE-MPS-23059-1] c44 N76-27664
- LEAD TELLURIDES**
- Bonding method for improving contact between lead telluride thermoelectric elements and tungsten electrodes  
[NASA-CASE-XGS-04554] c15 N69-39786
- Procedure for segmenting lead telluride and silicon germanium thermoelectric elements to obtain composite elements effective over wide temperature range  
[NASA-CASE-XGS-05718] c26 N71-16037
- LEADING EDGES**
- Leading edge design for hypersonic reentry vehicles  
[NASA-CASE-XLA-00165] c31 N70-33242
- Construction of leading edges of surfaces for aerial vehicles performing from subsonic to above transonic speeds  
[NASA-CASE-XLA-01486] c01 N71-23497
- Transonic and supersonic aircraft wherein the problems of roll control at high angles of attack are minimized  
[NASA-CASE-LAR-11868-1] c08 N76-19159
- LEAKAGE**
- Rocket chamber leak test fixture using tubular plug  
[NASA-CASE-IPR-09479] c14 N69-27503
- Microleak detector mounted on weld seam of propellant tank of launch vehicle  
[NASA-CASE-XMP-02307] c14 N71-10779
- Fluid leakage detection system with automatic monitoring capability  
[NASA-CASE-LAR-10323-1] c12 N71-17573
- Space suit using nonflexible material with low leakage and providing protection against thermal extremes, physical punctures, and radiation with high mobility articulation  
[NASA-CASE-XAC-07043] c05 N71-23161

- Development of apparatus and method for testing leakage of large tanks  
[NASA-CASE-IMP-02392] c32 N71-24285
- Gas leak detection in evacuated systems using ultraviolet radiation probe  
[NASA-CASE-ERC-10034] c15 N71-24896
- Method for locating leaks in hermetically sealed containers  
[NASA-CASE-ERC-10045] c15 N71-24910
- Volume displacement transducer for leak detection in hermetically sealed semiconductor devices  
[NASA-CASE-ERC-10033] c14 N71-26672
- Test chambers with orifice and helium mass spectrometer for detecting leak rate of encapsulated semiconductor devices  
[NASA-CASE-ERC-10150] c14 N71-28992
- Leak detector  
[NASA-CASE-MPS-21761-1] c35 N75-15931
- Vacuum leak detector  
[NASA-CASE-LAR-11237-1] c35 N75-19612
- Manufacture of glass-to-metal seals wherein the cleanliness of the process is enhanced and the leak resistance of the resulting seal is maximized  
[NASA-CASE-LAR-11563-1] c37 N76-21558
- LEG (ANATOMY)**
- Actuator device for artificial leg  
[NASA-CASE-MPS-23225-1] c54 N75-32767
- An artificial leg employing a mechanical energy storage device for hip disarticulation  
[NASA-CASE-ARC-10916-1] c54 N76-26871
- LENSES**
- Lens assembly for solar furnace or solar simulator  
[NASA-CASE-XNP-04111] c14 N71-15622
- Camera adapter design for image magnification including lens and illuminator  
[NASA-CASE-XMP-03844-1] c14 N71-26474
- Development and characteristics of Petzval type objective including field shaping lens for focusing light of specified wavelength band on curved photoreceptor  
[NASA-CASE-GSC-10700] c23 N71-30027
- Noise elimination in coherent imaging system by axial rotation of optical lens for spectral distribution of degrading affects  
[NASA-CASE-GSC-11133-1] c23 N72-11568
- Photographic film restoration system using Fourier transformation lenses and spatial filter  
[NASA-CASE-MS-C-12448-1] c14 N72-20394
- Plural beam antenna with parabolic reflectors  
[NASA-CASE-GSC-11013-1] c09 N73-19234
- LENTICULAR BODIES**
- Lenticular vehicle with foldable aerodynamic control flaps and reaction jets for operation above and within earth's atmosphere  
[NASA-CASE-XGS-00260] c31 N70-37924
- LEVEL (HORIZONTAL)**
- Hot-wire liquid level detector for cryogenic propellants  
[NASA-CASE-XLE-00454] c23 N71-17802
- LEVEL (QUANTITY)**
- Gauge for measuring quantity of liquid in spherical tank in reduced gravity  
[NASA-CASE-XMS-06236] c14 N71-21007
- Conversion of positive dc voltage to positive dc voltage of lower amplitude  
[NASA-CASE-XMP-14301] c09 N71-23188
- LEVELING**
- Development of adjustable attitude guide block for setting pins perpendicular to irregular convex work surface  
[NASA-CASE-XLA-07911] c15 N71-15571
- Electrical switching device comprising conductive liquid confined within square loop of deformable nonconductive tubing also used for leveling  
[NASA-CASE-NPO-10037] c09 N71-19610
- Adjustable support device with jacket screw for altering distance between base and supported member  
[NASA-CASE-NPO-10721] c15 N72-27484
- Automatically operable self-leveling load table  
[NASA-CASE-MPS-22039-1] c09 N75-12968
- LIFE (DURABILITY)**
- Hollow rolling element bearings  
[NASA-CASE-LZW-11087-3] c15 N74-21064
- LIFE DETECTORS**
- Use of enzyme hexokinase and glucose to reduce inherent light levels of ATP in luciferase compositions  
[NASA-CASE-XGS-05533] c04 N69-27487
- Describing method for lyophilization of luciferase containing mixtures for use in life detection reactions  
[NASA-CASE-XGS-05532] c06 N71-17705
- LIFE RAFTS**
- Design of inflatable life raft for aircrafts and boats  
[NASA-CASE-XMS-00863] c05 N70-34857
- Inflatable stabilizing system for use on life raft to reduce rocking and preclude capsizing  
[NASA-CASE-MS-C-12393-1] c02 N73-26006
- Modification of one man life raft  
[NASA-CASE-LAR-10241-1] c05 N74-14845
- LIFE SUPPORT SYSTEMS**
- Shock absorbing couch for body support under high acceleration or deceleration forces  
[NASA-CASE-XMS-01240] c05 N70-35152
- Portable environmental control and life support system for astronaut in and out of spacecraft  
[NASA-CASE-XMS-09632-1] c05 N71-11203
- Design and development of flexible tunnel for use by spacecrews in performing extravehicular activities  
[NASA-CASE-MS-C-12243-1] c05 N71-24728
- Development of improved convolute section for pressurized suits to provide high degree of mobility in response to minimum of applied torque  
[NASA-CASE-XMS-09637-1] c05 N71-24730
- Development and characteristics of inflatable structure to provide escape from orbit for spacecrews under emergency conditions  
[NASA-CASE-XMS-06162] c31 N71-28851
- Chlorine generator for purifying water in life support systems of manned spacecraft  
[NASA-CASE-XLA-08913] c14 N71-28933
- Open loop life support subsystem using breathing bag as reservoir for EVA  
[NASA-CASE-MS-C-12411-1] c05 N72-20096
- Device for removing air from water for use in life support systems in manned space flight  
[NASA-CASE-XLA-8914] c15 N73-12492
- Intra- and extravehicular life support space suite for Apollo astronauts  
[NASA-CASE-MS-C-12609-1] c05 N73-32012
- Catalyst cartridge for carbon dioxide reduction unit  
[NASA-CASE-LAR-10551-1] c06 N74-12813
- LIFT DEVICES**
- Device for handling heavy loads by distributing forces  
[NASA-CASE-XNP-04969] c11 N69-27466
- Techniques for recovery of multistage rocket vehicles by providing lifting surfaces on individual sections  
[NASA-CASE-XMP-00389] c31 N70-34176
- Direct lift control system having flaps with slots adjacent to their leading edge and particularly adapted for lightweight aircraft  
[NASA-CASE-LAR-10249-1] c02 N71-26110
- Development of auxiliary lifting system to provide ferry capability for entry vehicles  
[NASA-CASE-LAR-10574-1] c11 N73-13257
- High lift aircraft --- with improved stability, control, performance, and noise characteristics  
[NASA-CASE-LAR-11252-1] c05 N75-25914
- Device for installing rocket engines  
[NASA-CASE-MPS-19220-1] c20 N76-22296
- LIFT DRAG RATIO**
- Design of ring wing vehicle of high drag-to-weight ratio to withstand reentry stress into low density atmosphere  
[NASA-CASE-XLA-04901] c31 N71-24315
- LIFTING BODIES**
- Techniques for recovery of multistage rocket vehicles by providing lifting surfaces on individual sections  
[NASA-CASE-XMP-00389] c31 N70-34176
- Graphic illustration of lifting body design  
[NASA-CASE-FRC-10063] c01 N71-12217
- Static force balancing system attached to lifting body  
[NASA-CASE-LAR-10348-1] c11 N73-12264
- LIFTING REENTRY VEHICLES**
- Lenticular vehicle with foldable aerodynamic control flaps and reaction jets for operation

# LIGHT (VISIBLE RADIATION)

# SUBJECT INDEX

above and within earth's atmosphere  
[NASA-CASE-XGS-00260] c31 N70-37924  
Variable geometry manned orbital vehicle having  
high aerodynamic efficiency over wide speed  
range and incorporating auxiliary pivotal wings  
[NASA-CASE-XLA-03691] c31 N71-15674  
Designing spacecraft for flight into space,  
atmospheric reentry, and landing at selected  
sites  
[NASA-CASE-XAC-02058] c02 N71-16087  
**LIGHT (VISIBLE RADIATION)**  
Light baffle with oblate hemispheroid surface  
and shading flange  
[NASA-CASE-NPO-10337] c14 N71-15604  
Maksutov spectrograph for low light level research  
[NASA-CASE-XLA-10402] c14 N71-29041  
Method and apparatus for producing intense,  
coherent, monochromatic light from low  
temperature plasma  
[NASA-CASE-XNP-04167-3] c25 N72-21693  
Device for detection of combustion light  
preceding gaseous explosions  
[NASA-CASE-LAR-10739-1] c14 N73-16484  
**LIGHT AIRCRAFT**  
Direct lift control system having flaps with  
slots adjacent to their leading edge and  
particularly adapted for lightweight aircraft  
[NASA-CASE-LAR-10249-1] c02 N71-26110  
**LIGHT BEAMS**  
Cylindrical reflector for resolving wide angle  
light beam from telescope into narrow beam for  
spectroscopic analysis  
[NASA-CASE-XGS-08269] c23 N71-26206  
Development and characteristics of optical  
communications system based on modulation of  
light beams  
[NASA-CASE-XLA-01090] c16 N71-28963  
Multiple pattern holographic information storage  
and readout system  
[NASA-CASE-ERC-10151] c16 N71-29131  
**LIGHT GAS GUNS**  
Implosion driven, light gas, hypervelocity gun  
[NASA-CASE-XAC-05902] c11 N71-18578  
**LIGHT MODULATION**  
Optical retrodirective modulator with focus  
spoiling reflector driven by modulation signal  
[NASA-CASE-GSC-10062] c14 N71-15605  
Modulating and controlling intensity of light  
beam from high temperature source by  
servocontrolled rotating cylinders  
[NASA-CASE-XMS-04300] c09 N71-19479  
Method and apparatus for optically modulating  
light or microwave beam  
[NASA-CASE-GSC-10216-1] c23 N71-26722  
Development and characteristics of optical  
communications system based on modulation of  
light beams  
[NASA-CASE-XLA-01090] c16 N71-28963  
Lamp modulator for generating visual indication  
of presence and magnitude of signal  
[NASA-CASE-KSC-10565] c09 N72-25250  
Method and system for producing chroma signals  
[NASA-CASE-MSC-14683-1] c74 N75-33835  
Polarization compensator for optical  
communications  
[NASA-CASE-GSC-11782-1] c74 N76-30053  
**LIGHT SCATTERING**  
Forward-scatter polarimeter for determining the  
gaseous depolarization factor in the presence  
of polluting polydispersed particles  
[NASA-CASE-NPO-13756-1] c35 N76-14434  
A 2 degree/90 degree laboratory scattering  
photometer  
[NASA-CASE-GSC-12088-1] c35 N76-17369  
**LIGHT SOURCES**  
Light radiation direction indicator with baffle  
of two parallel grids  
[NASA-CASE-XNP-03930] c14 N69-24331  
High intensity heat and light unit containing  
quartz lamp elements protectively positioned  
to withstand severe environmental stress  
[NASA-CASE-XLA-00141] c09 N70-33312  
Photosensitive light source device for detecting  
unmanned spacecraft deviation from reference  
attitude  
[NASA-CASE-XNP-00438] c21 N70-35089  
Electro-optical detector for determining  
position of light source  
[NASA-CASE-XNP-01059] c23 N71-21821

Optical system for selecting particular  
wavelength light beams from multiple  
wavelength light source  
[NASA-CASE-ERC-10248] c14 N72-17323  
Electro-optical stabilization of calibrated  
light source  
[NASA-CASE-MSC-12293-1] c14 N72-27411  
Development of temperature compensated light  
source with components and circuitry for  
maintaining luminous intensity independent of  
temperature variations  
[NASA-CASE-ARC-10467-1] c09 N73-14214  
Interferometer prism and control system for  
precisely determining direction to remote  
light source  
[NASA-CASE-ARC-10278-1] c14 N73-25463  
Attitude sensor  
[NASA-CASE-LAR-10586-1] c14 N74-15089  
Very high intensity light source using a cathode  
ray tube --- electron beams  
[NASA-CASE-XNP-01296] c33 N75-27250  
Electric arc light source having undercut  
recessed anode  
[NASA-CASE-ARC-10266-1] c33 N75-29318  
**LIGHT TRANSMISSION**  
Hybrid holographic system using reference,  
transmitted, and reflected beams simultaneously  
[NASA-CASE-MPS-20074] c16 N71-15565  
Optical characteristics measuring apparatus  
[NASA-CASE-XNP-08840] c23 N71-16365  
Optical monitor panel consisting of translucent  
screen with test or meter information  
projected onto it from rear for application in  
control rooms of missile launching and  
tracking stations  
[NASA-CASE-KKS-03509] c14 N71-23175  
Solar cell panel with light transmitting cover  
plate  
[NASA-CASE-NPO-10747] c03 N72-22042  
Method and system for transmitting and  
distributing optical frequency radiation  
[NASA-CASE-HQN-10541-3] c23 N72-23695  
Thin absorbing metallic film for increased  
visible light transmission  
[NASA-CASE-LAR-10836-1] c26 N72-27784  
Transmitting and reflecting diffuser --- for  
ultraviolet light  
[NASA-CASE-LAR-10385-2] c23 N74-13436  
**LIGHTING EQUIPMENT**  
Sealed fluorescent tube light unit capable of  
connection with other units to form string of  
work lights  
[NASA-CASE-XKS-05932] c09 N71-26787  
Pressurized inert gas feed for lighting system  
[NASA-CASE-KSC-10644] c09 N72-27227  
**LIGHTNING**  
Apparatus for determining distance to lighting  
strokes from single station by magnetic and  
electric field sensing antennas  
[NASA-CASE-KSC-10698] c07 N73-20175  
System for locating lightning strokes by  
coordination of directional antenna signals  
[NASA-CASE-KSC-10729-1] c09 N73-32110  
Monitoring and recording lightning strokes in  
predetermined area  
[NASA-CASE-KSC-10728-1] c14 N73-32319  
Lightning current measuring systems  
[NASA-CASE-KSC-10807-1] c33 N75-26246  
**LIMITER CIRCUITS**  
Variable duration pulse integrator design for  
integrating pulse duration modulated pulses  
with elimination of ripple content  
[NASA-CASE-XLA-01219] c10 N71-23084  
Circuits for amplitude limiting of random noise  
inputs  
[NASA-CASE-NPO-10169] c10 N71-24844  
Velocity limiting safety system for motor driven  
research vehicle  
[NASA-CASE-XLA-07473] c15 N71-24895  
Low level signal limiter  
[NASA-CASE-XLE-04791] c14 N74-22096  
**LINEAR ACCELERATORS**  
Linear accelerator frequency control system  
[NASA-CASE-XGS-05441] c10 N71-22962  
**LINEAR RECEIVERS**  
Antenna array at focal plane of reflector with  
coupling network for beam switching  
[NASA-CASE-GSC-10220-1] c07 N71-27233

## LINEAR SYSTEMS

- Linear three-tap feedback shift register  
[NASA-CASE-NPO-10351] c08 N71-12503
- Family of m-ary linear feedback shift register  
with binary logic  
[NASA-CASE-NPO-11868] c10 N73-20254
- Linear phase demodulator  
[NASA-CASE-GSC-12018-1] c17 N76-13169

## LINEARITY

- Semilinear bearing comprising two rows of roller  
bearings separated by spherical bearings and  
permitting rotational and translational movement  
[NASA-CASE-XLA-02809] c15 N71-22982
- Mechanical actuator wherein linear motion  
changes to rotational motion  
[NASA-CASE-XGS-04548] c15 N71-24045

## LINKAGES

- Development of collapsible nozzle extension for  
rocket engines  
[NASA-CASE-MFS-11497] c28 N71-16224
- Design and construction of mechanical probe for  
determining if object is properly secured  
[NASA-CASE-MFS-20760] c14 N72-33377

## LIQUEFACTION

- Ophthalmic liquifaction pump  
[NASA-CASE-LEW-12051-1] c52 N75-33640
- Improved tissue macerating instrument ---  
ophthalmic liquifaction pump  
[NASA-CASE-LEW-12668-1] c52 N76-23837

## LIQUID BEARINGS

- Fatigue life of hybrid antifriction bearings at  
ultrahigh speeds  
[NASA-CASE-LEW-11152-1] c15 N73-32359

## LIQUID COOLING

- Water cooled contactors for holding rotating  
carbon arc anode  
[NASA-CASE-XMS-03700] c15 N69-24266
- External device for liquid spray cooling of gas  
turbine blades  
[NASA-CASE-XLE-00037] c28 N70-33372
- Water cooled solenoid capable of producing  
magnetic field intensities up to 100 kilogauss  
[NASA-CASE-XNP-01951] c09 N70-41929
- Laminar flow of liquid coolants in rocket engines  
[NASA-CASE-NPO-10122] c12 N71-17631
- Space suit body heat exchanger design composed  
of thermal conductance yarn and liquid coolant  
loops  
[NASA-CASE-XMS-09571] c05 N71-19439
- Electric power system with circulatory liquid  
coolant cooling system  
[NASA-CASE-MFS-14114-2] c09 N71-24807
- Electric power system with thermionic diodes and  
circulatory liquid metal coolant lines  
[NASA-CASE-MFS-14114] c33 N71-27862
- Apparatus for liquid spray cooling of turbine  
blades  
[NASA-CASE-XLE-00027] c33 N71-29152
- Automatic control device for regulating inlet  
water temperature of liquid cooled spacesuit  
[NASA-CASE-MSC-13917-1] c05 N72-15098
- Automatic temperature control for liquid cooled  
space suit  
[NASA-CASE-ARC-10599-1] c05 N73-26071
- Heat exchanger system and method  
[NASA-CASE-LAR-10799-2] c34 N76-17317
- Liquid-cooled brassiere  
[NASA-CASE-ARC-11007-1] c52 N76-18782
- Closed loop spray cooling apparatus --- for  
particle accelerator targets  
[NASA-CASE-LEW-11981-1] c37 N76-20486

## LIQUID CRYSTALS

- Development of combined velocimeter and  
accelerometer based on color changes in liquid  
crystalline material subjected to shear stresses  
[NASA-CASE-ERC-10292] c14 N72-25410
- Input signal measurement using liquid  
crystalline elements  
[NASA-CASE-ERC-10275] c26 N72-25680
- Real time liquid crystal image converter  
[NASA-CASE-LAR-11206-1] c23 N74-30118

## LIQUID FILLED SHELLS

- Liquid rocket systems for propulsion and control  
of spacecraft  
[NASA-CASE-XNP-00610] c28 N70-36910
- Design and development of fluid sample collector  
[NASA-CASE-XMS-06767-1] c14 N71-20435
- Manufacture of fluid containers from fused  
coated polyester sheets having resealable septum

- [NASA-CASE-NPO-10123] c15 N71-24835
- Omnidirectional liquid filled accelerometer  
design with liquid and housing temperature  
compensation  
[NASA-CASE-HQN-10780] c14 N71-30265

## LIQUID FLOW

- Reduced gravity liquid configuration simulator  
to study propellant behavior in rocket fuel  
tanks  
[NASA-CASE-XLE-02624] c12 N69-39988
- Liquid junction for glass electrode or pH meters  
[NASA-CASE-NPO-10682] c15 N70-34699
- Actuator using compressed gas as driving force  
to control valve handling large liquid flows  
[NASA-CASE-XHQ-01208] c15 N70-35409
- Two component valve assembly for cryogenic  
liquid transfer regulation  
[NASA-CASE-XLE-00397] c15 N70-36492
- Positive displacement flowmeter for measuring  
extremely low flows of fluid with self  
calibrating features  
[NASA-CASE-XMP-02822] c14 N70-41994
- High pressure liquid flow sight assembly for  
wide temperature range applications including  
cryogenic fluids  
[NASA-CASE-XLE-02998] c14 N70-42074
- Carrier liquid system containing bodies of  
ablative material  
[NASA-CASE-LEW-10359-2] c33 N73-25952
- Zero gravity liquid transfer device, using  
spiral shaped screen  
[NASA-CASE-KSC-10626] c14 N73-27378
- System for measuring Reynolds in a turbulently  
flowing fluid --- signal processing  
[NASA-CASE-ARC-10755-2] c34 N76-27517

## LIQUID HELIUM

- Heat operated cryogenic electrical generator  
[NASA-CASE-NPO-13303-1] c20 N75-24837
- Helium refrigerator  
[NASA-CASE-NPO-13435-1] c31 N76-14284

## LIQUID HYDROGEN

- Development of thermal insulation material for  
insulating liquid hydrogen tanks in spacecraft  
[NASA-CASE-XMP-05046] c33 N71-28892
- Reinforced polyquinoxaline gasket and method of  
preparing the same --- resistant to ionizing  
radiation and liquid hydrogen temperatures  
[NASA-CASE-MFS-21364-1] c15 N74-18126

## LIQUID INJECTION

- Thrust vector control by secondary injection of  
fluid into rocket nozzle flow field to  
separate exhaust flow  
[NASA-CASE-XLE-00208] c28 N70-34294
- System for aerodynamic control of rocket  
vehicles by secondary injection of fluid into  
nozzle exhaust stream  
[NASA-CASE-XLA-01163] c21 N71-15582
- Propellant injection assembly having  
individually removable and replaceable nozzles  
for liquid fueled rocket engines  
[NASA-CASE-XMP-00968] c28 N71-15660

## LIQUID LASERS

- Method and apparatus using temperature control  
for wavelength tuning of liquid lasers  
[NASA-CASE-ERC-10187] c16 N69-31343

## LIQUID LEVELS

- Inductive liquid level detection system  
[NASA-CASE-XLE-01609] c14 N71-10500

## LIQUID METALS

- Magnetohydrodynamic generator for mixing  
nonconductive gas and liquid metal mist to  
form slugs  
[NASA-CASE-XLE-02083] c03 N69-39983
- Thermoelectric power conversion by liquid metal  
flowing through magnetic field  
[NASA-CASE-XNP-00644] c03 N70-36803
- Analytical test apparatus and method for  
determining oxygen content in alkali liquid  
metal  
[NASA-CASE-XLE-01997] c06 N71-23527
- Electric power system with thermionic diodes and  
circulatory liquid metal coolant lines  
[NASA-CASE-MFS-14114] c33 N71-27862
- Flexible barrier membrane comprising porous  
substrate and incorporating liquid gallium or  
indium metal used as sealant barriers for  
spacecraft walls and pumping liquid propellants  
[NASA-CASE-XNP-08881] c17 N71-28747

- Shell-side liquid metal boiler employing tube and shell heat exchanger  
[NASA-CASE-NPO-10831] c33 N72-20915
- U shaped heated tube for distillation and purification of liquid metals  
[NASA-CASE-XNP-08124-2] c06 N73-13129
- Electromagnetic flow rate meter --- for liquid metals  
[NASA-CASE-LEW-10981-1] c14 N74-21018
- Liquid metal slip ring  
[NASA-CASE-LEW-12277-1] c33 N76-28472
- Process for preparing liquid metal electrical contact device --- sputtering to remove metal oxides  
[NASA-CASE-LEW-11978-1] c33 N76-29490
- LIQUID NITROGEN**  
Transferring liquid nitrogen through vacuum chamber to cryopanel  
[NASA-CASE-LAR-10031] c15 N72-22484
- LIQUID OXYGEN**  
Dye penetrant and technique for nondestructive tests of solid surfaces contacted by liquid oxygen  
[NASA-CASE-XMP-02221] c18 N71-27170
- LIQUID PHASES**  
Method and feed system for separating and orienting liquid and vapor phases of liquid propellants in zero gravity environment  
[NASA-CASE-XLE-01182] c27 N71-15635
- Hydraulic apparatus for casting and molding of liquid polymers  
[NASA-CASE-XNP-07659] c06 N71-22975
- Mixed liquid and vapor phase analyzer design with thermocouples for relative heat transfer measurement  
[NASA-CASE-NPO-10691] c14 N71-26199
- Low gravity phase separator  
[NASA-CASE-NSC-14773-1] c31 N75-32262
- LIQUID PROPELLANT ROCKET ENGINES**  
High thrust annular liquid propellant rocket engine and exhaust nozzle design  
[NASA-CASE-XLE-00078] c28 N70-33284
- Attitude and propellant flow control system for liquid propellant rocket vehicles  
[NASA-CASE-XMP-00185] c21 N70-34539
- Injector manifold assembly for bipropellant rocket engines providing for fuel propellant to serve as coolant  
[NASA-CASE-XMP-00148] c28 N70-38710
- Collapsible auxiliary tank for restarting liquid propellant rocket motors under zero gravity  
[NASA-CASE-XNP-01390] c28 N70-41275
- Rocket propellant injector with porous faceplate for rocket engine combustion chamber  
[NASA-CASE-LEW-11071-1] c27 N73-27695
- Supersonic-combustion rocket  
[NASA-CASE-LEW-11058-1] c28 N74-13502
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[NASA-CASE-MPS-22734-1] c18 N75-19329
- LIQUID ROCKET PROPELLANTS**  
Propellant injectors for rocket combustion chambers  
[NASA-CASE-XLE-00103] c28 N70-33241
- Liquid rocket systems for propulsion and control of spacecraft  
[NASA-CASE-XNP-00610] c28 N70-36910
- Igniter capsule for chemical ignition of liquid rocket propellants  
[NASA-CASE-XLE-00323] c28 N70-38505
- High temperature spark plug for igniting liquid rocket propellants  
[NASA-CASE-XLE-00660] c28 N70-39925
- Compact high pressure filter for rocket fuel lines  
[NASA-CASE-XNP-00732] c28 N70-41447
- Venting device for liquid propellant storage tank using magnetic field to separate liquid and gaseous phases  
[NASA-CASE-XLE-01449] c15 N70-41646
- Liquid propellant tank design with semitoroidal bulkhead  
[NASA-CASE-XMP-01899] c31 N70-41948
- Method and feed system for separating and orienting liquid and vapor phases of liquid propellants in zero gravity environment  
[NASA-CASE-XLE-01182] c27 N71-15635
- Control valve and coaxial variable injector for controlling bipropellant mixture ratio and flow  
[NASA-CASE-XNP-09702] c15 N71-17654
- Slosh and swirl alleviator for liquid propellant tanks during transport and flight  
[NASA-CASE-XLA-05749] c15 N71-19569
- Filler valve design for supplying liquid propellants at high pressure to space vehicles  
[NASA-CASE-XNP-01747] c15 N71-23024
- Electronic recording system for spatial mass distribution of liquid rocket propellant droplets or vapors ejected from high velocity nozzles  
[NASA-CASE-NPO-10185] c10 N71-26339
- Flexible barrier membrane comprising porous substrate and incorporating liquid gallium or indium metal used as sealant barriers for spacecraft walls and pumping liquid propellants  
[NASA-CASE-XNP-08881] c17 N71-28747
- Response analyzing apparatus for liquid vapor interface sensor of sloshing rocket propellant  
[NASA-CASE-MPS-11204] c14 N71-29134
- LIQUID SLOSHING**  
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[NASA-CASE-XMP-00658] c12 N70-38997
- Flexible ring slosh damping baffle for spacecraft fuel tank  
[NASA-CASE-LAR-10317-1] c32 N71-16103
- Submerged fuel tank baffles to prevent sloshing in liquid propellant rocket flight  
[NASA-CASE-XLA-04605] c32 N71-16106
- Hot-wire liquid level detector for cryogenic propellants  
[NASA-CASE-XLE-00454] c23 N71-17802
- Slosh and swirl alleviator for liquid propellant tanks during transport and flight  
[NASA-CASE-XLA-05749] c15 N71-19569
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[NASA-CASE-XLA-05541] c12 N71-26387
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[NASA-CASE-XMS-01624] c15 N70-40062
- Absorbent apparatus for separating gas from liquid-gas stream used in environmental control under zero gravity conditions  
[NASA-CASE-XMS-01492] c05 N70-41297
- Venting device for liquid propellant storage tank using magnetic field to separate liquid and gaseous phases  
[NASA-CASE-XLE-01449] c15 N70-41646
- Liquid-gaseous centrifugal separator for weightlessness environment  
[NASA-CASE-XLA-00415] c15 N71-16079
- Vapor-liquid separator design with vapor driven pump for separated liquid pumping for application in propellant transfer  
[NASA-CASE-XMP-04042] c15 N71-23023
- LIQUID-VAPOR INTERFACES**  
Describing apparatus for separating gas from cryogenic liquid under zero gravity and for venting gas from fuel tank  
[NASA-CASE-XLE-00586] c15 N71-15968
- Liquid-vapor interface seal design for turbine rotating shafts including helical and molecular pumps and liquid cooling of mercury vapor  
[NASA-CASE-XNP-02862-1] c15 N71-26294
- Response analyzing apparatus for liquid vapor interface sensor of sloshing rocket propellant  
[NASA-CASE-MPS-11204] c14 N71-29134
- LIQUIDS**  
Liquid-gas separator adapted for use in zero gravity environment - drawings  
[NASA-CASE-XMS-01624] c15 N70-40062
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[NASA-CASE-NPO-10037] c09 N71-19610
- Purification apparatus for vaporization and fractional distillation of liquids  
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 [NASA-CASE-LEW-10359] c33 N72-25911  
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 [NASA-CASE-LAR-10195-1] c15 N73-19458  
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 [NASA-CASE-ARC-10441-1] c15 N74-15126  
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 [NASA-CASE-XMP-00456] c14 N70-34705  
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[NASA-CASE-XAC-00404] c08 N70-40125
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[NASA-CASE-XGS-04767] c08 N71-12494
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- Logic circuit to ripple add and subtract binary counters for spaceborne computers  
[NASA-CASE-XGS-04766] c08 N71-18602
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[NASA-CASE-XNP-08567] c09 N71-26000
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- Adaptive signal generating system and logic circuits for satellite television systems  
[NASA-CASE-GSC-11367] c10 N71-26374
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[NASA-CASE-XNP-00437] c07 N70-40202
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[NASA-CASE-XGS-00769] c14 N70-41647
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[NASA-CASE-NPO-11941-1] c10 N73-27171
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[NASA-CASE-ARC-10516-1] c23 N74-21300
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[NASA-CASE-LAR-10168-1] c09 N74-22865
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- Aerospace configuration with low and high aspect ratio variability for high and low speed flight  
[NASA-CASE-XLA-00142] c02 N70-33286
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[NASA-CASE-GSC-12022-2] c44 N76-26695
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[NASA-CASE-GSC-12022-1] c44 N76-28635
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[NASA-CASE-MSC-12611-1] c12 N76-15189
- LOW MOLECULAR WEIGHTS**
- Process for preparing high molecular weight polyaryloxysilanes from lower molecular weight forms  
[NASA-CASE-XNP-08674] c06 N71-28807
- LOW NOISE**
- Low phase noise frequency divider for use with deep space network communication system  
[NASA-CASE-NPO-11569] c10 N73-26229
- Reflected-wave maser --- low noise amplifier  
[NASA-CASE-NPO-13490-1] c36 N76-31512
- LOW PRESSURE**
- Flowmeters for sensing low fluid flow rate and pressure for application to respiration rate studies  
[NASA-CASE-PRC-10022] c12 N71-26546
- LOW SPEED**
- Variable geometry manned orbital vehicle having high aerodynamic efficiency over wide speed range and incorporating auxiliary pivotal wings  
[NASA-CASE-XLA-03691] c31 N71-15674
- Device utilizing RC rate generators for continuous slow speed measurement  
[NASA-CASE-XNP-02966] c10 N71-24863
- LOW TEMPERATURE**
- Low to high temperature energy conversion system --- using ammonia  
[NASA-CASE-NPO-13510-1] c44 N75-16972
- LOW TEMPERATURE ENVIRONMENTS**
- Flexible, frangible electrochemical cell and package for operation in low temperature environment  
[NASA-CASE-XGS-10010] c03 N72-15986
- LOW TEMPERATURE TESTS**
- Cryostat for flexure fatigue testing of composite materials  
[NASA-CASE-XNP-02964] c14 N71-17659
- Cryostat for use with horizontal fatigue testing machines at low temperatures  
[NASA-CASE-XNP-10968] c14 N71-24234
- LOW VACUUM**
- Vibration damping system operating in low vacuum environment for spacecraft mechanisms  
[NASA-CASE-XMS-01620] c23 N71-15673
- LOW VOLTAGE**
- High speed low level voltage commutating switch  
[NASA-CASE-XAC-00060] c09 N70-39915
- Flexible monopole antenna with broad bandwidth and low voltage standing wave ratio  
[NASA-CASE-MSC-12101] c09 N71-18720

- Circuit design for failure sensing and protecting low voltage electric generator and power transmission networks  
[NASA-CASE-GSC-10114-1] c10 N71-27366
- LUBRICANTS**  
Metallic film diffusion into metal or ceramic surfaces for boundary lubrication in aerospace environments  
[NASA-CASE-XLE-01765] c18 N71-10772  
Metallic film diffusion for boundary lubrication in aerospace engineering  
[NASA-CASE-XLE-10337] c15 N71-24046  
Fluorinated esters of polycarboxylic acid and lubricating compositions for use at extreme temperature  
[NASA-CASE-MFS-21040-1] c06 N73-30098  
Thiophenyl ether disiloxanes and trisiloxanes useful as lubricant fluids  
[NASA-CASE-MFS-22411-1] c15 N74-21058  
Journal bearings --- for lubricant films  
[NASA-CASE-LEW-11076-1] c15 N74-21061
- LUBRICATING OILS**  
Fluid seal formed by flexible disk on rotating shaft to retain lubricating oils around shaft  
[NASA-CASE-XLE-05130-2] c15 N71-19570
- LUBRICATION**  
Hollow high strength rolling elements for antifriction bearings fabricated from preformed components  
[NASA-CASE-LEW-11026-1] c15 N73-33383  
Variable resistance constant tension and lubrication device --- using oil-saturated leather wiper  
[NASA-CASE-KSC-10723-1] c37 N75-13265  
Fluid journal bearings  
[NASA-CASE-LEW-11076-4] c37 N76-15461
- LUBRICATION SYSTEMS**  
Development of hybrid bearing lubrication system with combination of standard type lubrication and magnetic flux field for earth atmosphere and space environment operation  
[NASA-CASE-XNP-01641] c15 N71-22997  
Lubrication for bearings by capillary action from oil reservoir of porous material  
[NASA-CASE-XNP-03972] c15 N71-23048  
Journal Bearings  
[NASA-CASE-LEW-11076-2] c15 N74-32921
- LUMINAIRES**  
Visual target luminaires for retrofire attitude control  
[NASA-CASE-XMS-12158-1] c31 N69-27499  
Development of ultraviolet resonance lamp with improved transmission of radiation  
[NASA-CASE-ARC-10030] c09 N71-12521  
Lamp modulator for generating visual indication of presence and magnitude of signal  
[NASA-CASE-KSC-10565] c09 N72-25250  
Electrodeless lamp circuit driven by induction  
[NASA-CASE-MFS-21214-1] c09 N73-30181
- LUMINOSITY**  
Mechanism for measuring nanosecond time differences between luminous events using streak camera  
[NASA-CASE-XLA-01987] c23 N71-23976
- LUMINOUS INTENSITY**  
Filter arrangement for controlling light intensity in motion picture camera used in optical pyrometry  
[NASA-CASE-XLA-00062] c14 N70-33254  
Development of star intensity measuring system which minimizes effects of outside interference  
[NASA-CASE-XNP-06510] c14 N71-23797
- LUNAR BASES**  
Development and characteristics of natural circulation radiator for use with nuclear power plants installed in lunar space stations  
[NASA-CASE-XHQ-03673] c33 N71-29046
- LUNAR COMMUNICATION**  
Conversion system for transforming slow scan rate of Apollo TV camera on moon to fast scan of commercial TV  
[NASA-CASE-XMS-07168] c07 N71-11300  
Three transceiver lunar emergency system to relay voice communication of astronaut  
[NASA-CASE-MFS-21042] c07 N72-25171
- LUNAR COMPOSITION**  
Development and characteristics of pentrometer for measuring physical properties of lunar surface  
[NASA-CASE-XLA-00934] c14 N71-22765
- LUNAR EXPLORATION**  
Backpack carrier with retractable legs suitable for lunar exploration and convertible to rescue vehicle  
[NASA-CASE-LAR-10056] c05 N71-12351  
Development and characteristics of pentrometer for measuring physical properties of lunar surface  
[NASA-CASE-XLA-00934] c14 N71-22765  
Lightweight propulsion unit for movement of personnel and equipment across lunar surface  
[NASA-CASE-MFS-20130] c28 N71-27585  
Three transceiver lunar emergency system to relay voice communication of astronaut  
[NASA-CASE-MFS-21042] c07 N72-25171
- LUNAR GRAVITATION**  
Apparatus for training astronaut crews to perform on simulated lunar surface under conditions of lunar gravity  
[NASA-CASE-XMS-04798] c11 N71-21474
- LUNAR GRAVITY SIMULATOR**  
Lunar and planetary gravity simulator to test vehicular response to landing  
[NASA-CASE-XLA-00493] c11 N70-34786
- LUNAR LANDING**  
Lunar landing flight research vehicle  
[NASA-CASE-XPR-00929] c31 N70-34966
- LUNAR LOGISTICS**  
Lightweight propulsion unit for movement of personnel and equipment across lunar surface  
[NASA-CASE-MFS-20130] c28 N71-27585
- LUNAR ROCKS**  
Impact bit for cutting, collecting, and storing samples, such as lunar rock cuttings  
[NASA-CASE-XNP-01412] c15 N70-42034
- LUNAR SOIL**  
Development of device for separating, collecting, and viewing soil particles  
[NASA-CASE-XNP-09770] c15 N71-20440  
Device which separates and screens particles of soil samples for vidicon viewing in vacuum and reduced gravity environments  
[NASA-CASE-XNP-09770-3] c11 N71-27036  
Portable penetrometer for analyzing soil characteristics  
[NASA-CASE-MFS-20774] c14 N73-19420  
Method for obtaining oxygen from lunar or similar soil  
[NASA-CASE-MSC-12408-1] c13 N74-13011
- LUNAR SURFACE VEHICLES**  
Resilient vehicle wheel for lunar surface travel  
[NASA-CASE-MFS-20400] c31 N71-18611  
Resilient wheel design with woven wire tire and abrasive treads for lunar surface vehicles  
[NASA-CASE-MFS-13929] c15 N71-27091
- LUNGS**  
Piston device for producing known constant positive pressure within lungs by using thoracic muscles  
[NASA-CASE-XMS-01615] c05 N70-41329
- M**
- MACHINE TOOLS**  
Rotary impact-type rock drill for recovering rock cuttings  
[NASA-CASE-XNP-07478] c14 N69-21923  
Description of protective device for providing safe operating conditions around work piece in machine or metal working tool  
[NASA-CASE-XLE-01092] c15 N71-22797  
Description of device for aligning stacked sheets of paper for repetitive cutting  
[NASA-CASE-XMS-04178] c15 N71-22798  
Development and characteristics of frusto-conical die nib for extrusion of refractory metals  
[NASA-CASE-XLE-06773] c15 N71-23817  
Design and development of layout tool for machine shop use to locate point in precise reference to straight or bowed reference edge  
[NASA-CASE-PRC-10005] c15 N71-26145  
Optical gauging system for monitoring machine tool alignment  
[NASA-CASE-XAC-09489-1] c15 N71-26673  
Caterpillar micropositioner for positioning machine tools adjacent to workpiece  
[NASA-CASE-GSC-10780-1] c14 N72-16283

- Geneva mechanism --- including star wheel and driver  
[NASA-CASE-NPO-13281-1] c37 N75-13266
- Precision alignment apparatus for cutting a workpiece  
[NASA-CASE-LAR-11658-1] c37 N76-13494
- Zero torque gear head wrench  
[NASA-CASE-NPO-13059-1] c37 N76-20480
- MACHINERY**
- Design of mechanical device for stirring several test tubes simultaneously  
[NASA-CASE-XAC-06956] c15 N71-21177
- Precipitation detector and mechanism for stopping and restarting machinery at initiation and cessation of rain.  
[NASA-CASE-XLA-02619] c10 N71-26334
- Apparatus for forming drive belts  
[NASA-CASE-NPO-13205-1] c15 N74-32917
- MACHINING**
- Laser machining device with dielectric functioning as beam waveguide for mechanical and medical applications  
[NASA-CASE-HQN-10541-2] c15 N71-27135
- Lathe tool and holder combination for machining resin impregnated fiberglass cloth laminates  
[NASA-CASE-XLA-10470] c15 N72-21489
- Drilled ball bearing with a one piece anti-tipping cage assembly  
[NASA-CASE-LEW-11925-1] c37 N75-31446
- MAGNESIUM**
- Chemical spot test for identifying magnesium or magnesium alloys used in aerospace applications  
[NASA-CASE-LAR-10953-1] c17 N73-27446
- MAGNESIUM ALLOYS**
- Procedure for bonding polytetrafluoroethylene thermal protective sleeves to magnesium alloy conical shell components with different thermal coefficients  
[NASA-CASE-XLA-01262] c15 N71-21404
- Chemical spot test for identifying magnesium or magnesium alloys used in aerospace applications  
[NASA-CASE-LAR-10953-1] c17 N73-27446
- MAGNESIUM OXIDES**
- Method for determining presence and type of OH in MgO  
[NASA-CASE-NPO-10774] c06 N72-17095
- MAGNET COILS**
- Improved alternator with windings of superconducting materials acting as permanent magnet  
[NASA-CASE-XLE-02824] c03 N69-39890
- Relay circuit breaker with magnetic latching to provide conductive and nonconductive paths for current devices  
[NASA-CASE-MSC-11277] c09 N71-29008
- MAGNETIC CHARGE DENSITY**
- Ion engine with magnetic circuit for optimal discharge  
[NASA-CASE-XLE-01124] c28 N71-14043
- MAGNETIC CIRCUITS**
- Ion engine with magnetic circuit for optimal discharge  
[NASA-CASE-XLE-01124] c28 N71-14043
- MAGNETIC COILS**
- Time division multiplexer with magnetic latching relays  
[NASA-CASE-XNP-00431] c09 N70-38998
- Linear magnetic braking system with nonuniformly wrapped primary coil producing constant braking force on secondary coil.  
[NASA-CASE-XLE-05079] c15 N71-17652
- Electroexplosive safe-arm initiator using electric driven electromagnet coils and magnets to align charge  
[NASA-CASE-LAR-10372] c09 N71-18599
- Magnifying image intensifier  
[NASA-CASE-GSC-12010-1] c33 N76-23482
- Independent gain and bandwidth control of a traveling wave maser  
[NASA-CASE-NPO-13801-1] c36 N76-31514
- MAGNETIC CONTROL**
- Magnetically opened diaphragm design with camera shutter and expansion tube applications  
[NASA-CASE-XLA-03660] c15 N71-21060
- Magnetically controlled plasma accelerator capable of ignition in low density gaseous environment  
[NASA-CASE-XLA-00327] c25 N71-29184
- Magnetic bearing system  
[NASA-CASE-GSC-11978-1] c37 N75-27386
- Axially and radially controllable magnetic bearing  
[NASA-CASE-GSC-11551-1] c37 N76-18459
- MAGNETIC CORES**
- Variable frequency magnetic coupled multivibrator with temperature compensated frequency control circuit  
[NASA-CASE-XGS-00458] c09 N70-38604
- Variable frequency magnetic coupled multivibrator with output signal of constant amplitude and waveform  
[NASA-CASE-XGS-00131] c09 N70-38995
- Electronic counter circuit utilizing magnetic core and low power consumption  
[NASA-CASE-YNP-08836] c09 N71-12515
- Pulsed magnetic core memory element with blocking oscillator feedback for interrogation without loss of digital information  
[NASA-CASE-XGS-03303] c08 N71-18595
- Describing magnetic core current switching device for steering bipolar current pulses to memory units  
[NASA-CASE-NPO-10201] c08 N71-18694
- Reliable magnetic core circuit apparatus with application in selection matrices for digital memories  
[NASA-CASE-XP-01318] c10 N71-23033
- Magnetic current regulator for saturable core transformer  
[NASA-CASE-ERC-10075] c09 N71-24800
- Power switch with transfluxor type magnetic core  
[NASA-CASE-NPO-10242] c09 N71-24803
- Unsaturating magnetic core transformer design with warning signal for electrical power processing equipment  
[NASA-CASE-ERC-10125] c09 N71-24893
- Temperature sensitive magnetometer with pulsating thermally cycled magnetic core  
[NASA-CASE-XAC-03740] c14 N71-26135
- Digital magnetic core memory with sensing amplifier circuits  
[NASA-CASE-XP-01012] c08 N71-28925
- Saturable magnetic core and signal detection for indicating impending saturation  
[NASA-CASE-ERC-10089] c23 N72-17747
- Commutator for steering precisely controlled bidirectional currents through numerous loads by use of magnetic core shift registers  
[NASA-CASE-NPO-10743] c08 N72-21199
- Banded transformer cores  
[NASA-CASE-NPO-11966-1] c09 N74-17928
- MAGNETIC DIPOLES**
- Torque meter for determining magnitude of torque generated by interaction of magnetic dipole between test specimen and ambient magnetic field  
[NASA-CASE-XGS-01013] c14 N71-23725
- MAGNETIC DISKS**
- Device for removing plastic dust cover from digital computer disk packs for inspection and cleaning  
[NASA-CASE-LAR-10590-1] c15 N70-26819
- MAGNETIC FIELD INVERSIONS**
- Magnifying image intensifier  
[NASA-CASE-GSC-12010-1] c33 N76-23482
- MAGNETIC FIELDS**
- Magnetically diffused radial electric arc heater  
[NASA-CASE-XLA-00330] c33 N70-34540
- Method and apparatus for communicating through ionized layer of gases surrounding spacecraft during reentry into planetary atmospheres  
[NASA-CASE-XLA-01127] c07 N70-41372
- Venting device for liquid propellant storage tank using magnetic field to separate liquid and gaseous phases  
[NASA-CASE-XLE-01449] c15 N70-41646
- Ion engine with magnetic circuit for optimal discharge  
[NASA-CASE-XLE-01124] c28 N71-14043
- Development of wide range linear fluxgate magnetometer  
[NASA-CASE-XGS-01587] c14 N71-15962
- Magnetic element position sensing device, using misaligned electromagnets  
[NASA-CASE-XGS-07514] c23 N71-16099
- Development of non-magnetic indexing device for orienting magnetic flux sensing instrument in magnetic field without generation of detrimental magnetic fields

- [NASA-CASE-XGS-02422] c15 N71-21529  
Negation of magnetic fields produced by thin  
waferlike circuit elements in space vehicles  
[NASA-CASE-XGS-03390] c03 N71-23187  
Torquemeter for determining magnitude of torque  
generated by interaction of magnetic dipole  
between test specimen and ambient magnetic field  
[NASA-CASE-XGS-01013] c14 N71-23725  
Fluxgate magnetometer for measuring magnetic  
field along two axes using one sensor  
[NASA-CASE-GSC-10441-1] c14 N71-27325  
Segmented superconducting magnet producing  
staggered magnetic field and suitable for  
broadband traveling wave masers  
[NASA-CASE-XGS-10518] c16 N71-28554  
Magnetic method for detection of aircraft  
position relative to runway  
[NASA-CASE-ARC-10179-1] c21 N72-22619  
Radial magnetic field for ion thruster  
[NASA-CASE-LEW-10770-1] c28 N72-22770  
Automatic shunting of ion thruster magnetic  
field when thruster is not operating  
[NASA-CASE-LEW-10835-1] c28 N72-22771  
Apparatus for determining distance to lighting  
strokes from single station by magnetic and  
electric field sensing antennas  
[NASA-CASE-KSC-10698] c07 N73-20175  
Superconducting magnetic field trapping device  
for producing magnetic field in air  
[NASA-CASE-XNP-01185] c26 N73-28710  
Electron beam controller --- using magnetic  
field to refocus spent electron beam in  
microwave oscillator tube  
[NASA-CASE-LEW-11617-1] c09 N74-10195  
Magnetometer --- for determining magnetic  
remanence and magnetic fields  
[NASA-CASE-LAR-11617-1] c35 N75-33370  
Mass spectrometer with magnetic pole pieces  
providing the magnetic fields for both the  
magnetic sector and an ion-type vacuum pump  
[NASA-CASE-NPO-13663-1] c35 N76-13456  
Magnetometer using superconducting rotating body  
[NASA-CASE-NPO-13388-1] c35 N76-16390  
Atomic hydrogen storage method and apparatus ---  
in strong magnetic fields  
[NASA-CASE-LEW-12081-1] c28 N76-22399  
**MAGNETIC FLUX**  
Excitation and detection circuitry for flux  
responsive magnetic head  
[NASA-CASE-XNP-04183] c09 N69-24329  
Cryogenic flux-gated magnetometer using  
superconductors  
[NASA-CASE-XAC-02407] c14 N69-27423  
Flux gate magnetometer with toroidal gating coil  
and solenoidal output coil for signal  
modulation or amplification  
[NASA-CASE-XGS-01881] c09 N70-40123  
Development of hybrid bearing lubrication system  
with combination of standard type lubrication  
and magnetic flux field for earth atmosphere  
and space environment operation  
[NASA-CASE-XNP-01641] c15 N71-22997  
Magnetic current regulator for saturable core  
transformer  
[NASA-CASE-ERC-10075] c09 N71-24800  
Magnetic flux pump for changing intensity of  
magnetic fields  
[NASA-CASE-XNP-01187] c15 N73-28516  
Method for increasing intensity of magnetic  
field by transferring flux  
[NASA-CASE-XNP-01188] c15 N73-32361  
Magnetic bearing --- for supplying magnetic fluxes  
[NASA-CASE-GSC-11079-1] c37 N75-18574  
**MAGNETIC FORMING**  
Portable magnetomotive hammer for metal working  
[NASA-CASE-XMF-03793] c15 N71-24833  
Method and apparatus for portable high precision  
magnetomotive bulging, constricting, and  
joining of large diameter metal tubes  
[NASA-CASE-XMF-05114-3] c15 N71-24865  
**MAGNETIC INDUCTION**  
Continuous operation, single phased, induction  
plasma accelerator producing supersonic speeds  
[NASA-CASE-XLA-01354] c25 N70-36946  
Automatic power supply circuit design for  
driving inductive loads and minimizing power  
consumption including solenoid example  
[NASA-CASE-NPO-10716] c09 N71-24892  
Double-induction variable speed system for  
constant-frequency electrical power generation  
[NASA-CASE-ERC-10065] c09 N71-27364  
Microwave generator using Gunn effect for  
magnetic tuning  
[NASA-CASE-NPO-12106] c09 N73-15235  
High speed shutter --- electrically actuated  
ribbon loop for shuttering optical or fluid  
passageways  
[NASA-CASE-ARC-10516-1] c23 N74-21300  
**MAGNETIC LENSES**  
Quadrupole mass spectrometer using noise  
spectrum for ion separation and identification  
[NASA-CASE-XNP-04231] c14 N73-32325  
**MAGNETIC MATERIALS**  
Low density and low viscosity magnetic  
propellant for use under zero gravity conditions  
[NASA-CASE-XLE-01512] c12 N70-40124  
**MAGNETIC MEASUREMENT**  
Cryogenic flux-gated magnetometer using  
superconductors  
[NASA-CASE-XAC-02407] c14 N69-27423  
Development of wide range linear fluxgate  
magnetometer  
[NASA-CASE-XGS-01587] c14 N71-15962  
Active RC filter networks and amplifiers for  
deep space magnetic field measurement  
[NASA-CASE-XAC-05462-2] c10 N72-17171  
Magnetometer using superconducting rotating body  
[NASA-CASE-NPO-13388-1] c35 N76-16390  
**MAGNETIC POLES**  
Design of magnetohydrodynamic induction machine  
with end poles which produce compensating  
magnetic fields  
[NASA-CASE-XNP-07481] c25 N69-21929  
Mass spectrometer with magnetic pole pieces  
providing the magnetic fields for both the  
magnetic sector and an ion-type vacuum pump  
[NASA-CASE-NPO-13663-1] c35 N76-13456  
**MAGNETIC PUMPING**  
Magnetic flux pump for changing intensity of  
magnetic fields  
[NASA-CASE-XNP-01187] c15 N73-28516  
Method for increasing intensity of magnetic  
field by transferring flux  
[NASA-CASE-XNP-01188] c15 N73-32361  
Magnetocaloric pump --- for cryogenic fluids  
[NASA-CASE-LEW-11672-1] c15 N74-27904  
**MAGNETIC RECORDING**  
Development of data storage system for storing  
digital data in high density format on  
magnetic tape  
[NASA-CASE-XNP-02778] c08 N71-22710  
Magnetic recording head composed of ferrite core  
coated with thin film of aluminum-iron-silicon  
alloy  
[NASA-CASE-GSC-10097-1] c08 N71-27210  
**MAGNETIC SIGNALS**  
Plural recorder system which limits signal  
recording to signals of sufficient interest  
[NASA-CASE-XMS-06949] c09 N69-21467  
**MAGNETIC STORAGE**  
Nondestructive interrogating and state changing  
circuit for binary magnetic storage elements  
[NASA-CASE-XGS-00174] c08 N70-34743  
Magnetic matrix memory system for nondestructive  
reading of information contained in matrix  
[NASA-CASE-XMF-05835] c08 N71-12504  
Pulse duration control device for driving slow  
response time loads in selected sequence  
including switching and delay circuits and  
magnetic storage  
[NASA-CASE-XGS-04224] c10 N71-26418  
Redundant memory for enhanced reliability of  
digital data processing system  
[NASA-CASE-GSC-10564] c10 N71-29135  
Momentum wheel design for spacecraft attitude  
control and magnetic drum and head system for  
data storage  
[NASA-CASE-NPO-11481] c21 N73-13644  
**MAGNETIC SUSPENSION**  
Magnetic suspension and pointing system  
[NASA-CASE-LAR-11889-1] c19 N76-18227  
**MAGNETIC SWITCHING**  
Power switch with transfluxor type magnetic core  
[NASA-CASE-NPO-10242] c09 N71-24803  
Design and development of multistage current  
steering switch with inductively coupled  
magnetic cores

- [NASA-CASE-XNP-08567] c09 N71-26000  
**MAGNETIC TAPE TRANSPORTS**  
 Reel safety brake  
 [NASA-CASE-GSC-11960-1] c37 N76-13495  
**MAGNETIC TAPES**  
 Tape cartridge with high capacity storage of  
 endless-loop magnetic tape  
 [NASA-CASE-XGS-00769] c14 N70-41647  
 Endless loop tape transport mechanism for  
 driving and tensioning recording medium in  
 magnetic tape recorder  
 [NASA-CASE-XGS-01223] c07 N71-10609  
 Development of low friction magnetic recording  
 tape  
 [NASA-CASE-XGS-00373] c23 N71-15978  
 System for recording and reproducing PCM data  
 from data stored on magnetic tape  
 [NASA-CASE-XGS-01021] c08 N71-21042  
 Kinetic and static friction force measurement  
 between magnetic tape and magnetic head surfaces  
 [NASA-CASE-XNP-08680] c14 N71-22995  
 Technique for recovery of voice data from heat  
 damaged magnetic tape  
 [NASA-CASE-MSC-14219-1] c07 N74-27612  
 Magnetic tape head function switching system  
 [NASA-CASE-GSC-11956-1] c35 N75-25134  
 Automatic character skew and spacing checking  
 network --- of digital tape drive systems  
 [NASA-CASE-GSC-11925-1] c33 N76-18353  
**MAGNETIZATION**  
 Permanently magnetized ion engine casing  
 construction for use in spacecraft propulsion  
 systems  
 [NASA-CASE-XNP-06942] c28 N71-23293  
**MAGNETO-OPTICS**  
 Thermomagnetic recording and magneto-optic  
 playback system having constant intensity  
 laser beam control  
 [NASA-CASE-NPO-11317-2] c16 N74-13205  
**MAGNETOHYDRODYNAMIC FLOW**  
 Improving preformance of magnetoplasmadynamic  
 arc rocket engine  
 [NASA-CASE-LEW-11180-1] c25 N73-25760  
**MAGNETOHYDRODYNAMIC GENERATORS**  
 Design of magnetohydrodynamic induction machine  
 with end poles which produce compensating  
 magnetic fields  
 [NASA-CASE-XNP-07481] c25 N69-21929  
 Magnetohydrodynamic generator for mixing  
 nonconductive gas and liquid metal mist to  
 form slugs  
 [NASA-CASE-XLE-02083] c03 N69-39983  
 Thermoelectric power conversion by liquid metal  
 flowing through magnetic field  
 [NASA-CASE-XNP-00644] c03 N70-36803  
 Crossed field MHD plasma generator-accelerator  
 [NASA-CASE-XLA-03374] c25 N71-15562  
**MAGNETOMETERS**  
 Nonmagnetic thermal motor for magnetometer  
 movement  
 [NASA-CASE-XAR-03786] c09 N69-21313  
 Cryogenic flux-gated magnetometer using  
 superconductors  
 [NASA-CASE-XAC-02407] c14 N69-27423  
 Flux gate magnetometer with toroidal gating coil  
 and solenoidal output coil for signal  
 modulation or amplification  
 [NASA-CASE-XGS-01881] c09 N70-40123  
 Development of wide range linear fluxgate  
 magnetometer  
 [NASA-CASE-XGS-01587] c14 N71-15962  
 Design and development of optically pumped  
 resonance magnetometer for determining  
 vectoral components in spatial coordinate system  
 [NASA-CASE-XGS-04879] c14 N71-20428  
 Temperature sensitive magnetometer with  
 pulsating thermally cycled magnetic core  
 [NASA-CASE-XAC-03740] c14 N71-26135  
 Fluxgate magnetometer for measuring magnetic  
 field along two axes using one sensor  
 [NASA-CASE-GSC-10441-1] c14 N71-27325  
 Hall effect magnetometer  
 [NASA-CASE-LEW-11632-3] c14 N74-33944  
 Hall effect magnetometer  
 [NASA-CASE-LEW-11632-2] c35 N75-13213  
 Magnetometer --- for determining magnetic  
 remanence and magnetic fields  
 [NASA-CASE-LAR-11617-1] c35 N75-33370  
 Magnetometer using superconducting rotating body  
 [NASA-CASE-NPO-13388-1] c35 N76-16390  
 Magnetic heading reference  
 [NASA-CASE-LAR-11387-1] c04 N76-20114  
 Magnetic heading reference  
 [NASA-CASE-LAR-11387-2] c04 N76-26180  
**MAGNETRONS**  
 Tuning arrangement for frequency control of  
 magnetron-type electron discharge device  
 [NASA-CASE-XNP-09771] c09 N71-24841  
**MAGNIFICATION**  
 Camera adapter design for image magnification  
 including lens and illuminator  
 [NASA-CASE-XMP-03844-1] c14 N71-26474  
 Passive type, magnifying scratch gage, force  
 transducer  
 [NASA-CASE-LAR-10496-1] c14 N72-22437  
**MAGNITUDE**  
 Torquemeter for determining magnitude of torque  
 generated by interaction of magnetic dipole  
 between test specimen and ambient magnetic field  
 [NASA-CASE-XGS-01013] c14 N71-23725  
**MAINTENANCE**  
 Self testing and repairing computer comprising  
 control and diagnostic unit and rollback  
 points for error correction  
 [NASA-CASE-NPO-10567] c08 N71-24633  
 Development of process for bonding resinous body  
 in cavities of honeycomb structures  
 [NASA-CASE-MSC-12357] c15 N73-12489  
 Method of repairing discontinuity in fiberglass  
 structures  
 [NASA-CASE-LAR-10416-1] c18 N74-30001  
**MALFUNCTIONS**  
 Aircraft instrument for indicating malfunctions  
 during takeoff  
 [NASA-CASE-XLA-00100] c14 N70-36807  
**MANDRELS**  
 Mandrel for shaping solid propellant rocket fuel  
 into engine casing  
 [NASA-CASE-XLA-00304] c27 N70-34783  
 Rotating, multisided mandrel for fabricating  
 gored inflatable spacecraft  
 [NASA-CASE-XLA-04143] c15 N71-17687  
 Method of making solid propellant rocket motor  
 having reliable high altitude capabilities,  
 long shelf life, and capable of firing with  
 nozzle closure with foamed plastic permanent  
 mandrel  
 [NASA-CASE-XLA-04126] c28 N71-26779  
**MANIFOLDS**  
 Injector manifold assembly for bipropellant  
 rocket engines providing for fuel propellant  
 to serve as coolant  
 [NASA-CASE-XMP-00148] c28 N70-38710  
**MANIPULATORS**  
 Manipulator for remote handling in zero gravity  
 environment  
 [NASA-CASE-MPS-14405] c15 N72-28495  
 Anthropomorphic master/slave manipulator system  
 [NASA-CASE-ARC-10756-1] c15 N74-16139  
 Orthotic arm joint --- for use in mechanical arms  
 [NASA-CASE-MPS-21611-1] c54 N75-12616  
 Variable ratio mixed-mode bilateral master-slave  
 control system for shuttle remote manipulator  
 system  
 [NASA-CASE-MSC-14245-1] c18 N75-27041  
 Cooperative multiaxis sensor for teleoperation  
 of article manipulating apparatus  
 [NASA-CASE-NPO-13386-1] c54 N75-27758  
 Combined docking and grasping device  
 [NASA-CASE-MPS-23088-1] c18 N75-29160  
 Remotely operable articulated manipulator  
 [NASA-CASE-MPS-22707-1] c37 N76-15457  
 Remote manipulator system  
 [NASA-CASE-MPS-22022-1] c37 N76-15460  
 Wrist joint assembly  
 [NASA-CASE-MPS-23311-1] c37 N76-28554  
**MANNED ORBITAL LABORATORIES**  
 Artificial gravity system for simulating  
 self-locomotion capability of astronauts in  
 rotating environments  
 [NASA-CASE-XLA-03127] c11 N71-10776  
**MANNED ORBITAL RESEARCH LABORATORIES**  
 Manned space station collapsible for launching  
 and self-erectable in orbit  
 [NASA-CASE-XLA-00678] c31 N70-34296  
 Radial module manned space station with  
 artificial gravity environment

- [NASA-CASE-XMS-01906] c31 N70-41373
- MANNED SPACE FLIGHT**
- Three-port transfer valve with one port open continuously suitable for manned space flight [NASA-CASE-XAC-01158] c15 N71-23051
- Device for removing air from water for use in life support systems in manned space flight [NASA-CASE-XLA-8914] c15 N73-12492
- MANNED SPACECRAFT**
- Manned space capsule configuration for orbital flight and atmospheric reentry [NASA-CASE-XLA-00149] c31 N70-37938
- Delta winged, manned reentry vehicle capable of horizontal glide landing at low speeds [NASA-CASE-XLA-00241] c31 N70-37986
- Parachute system for lowering manned spacecraft from post-reentry to ocean landing [NASA-CASE-XLA-00195] c02 N70-38009
- Design and configuration of manned space capsule [NASA-CASE-XLA-01332] c31 N71-15664
- Development of method for producing artificial gravity in manned spacecraft [NASA-CASE-XNP-02595] c31 N71-21881
- Chlorine generator for purifying water in life support systems of manned spacecraft [NASA-CASE-XLA-08913] c14 N71-28933
- Collapsible couch system for manned space vehicles [NASA-CASE-MSC-13140] c05 N72-11085
- Spacecraft with artificial gravity and earthlike atmosphere [NASA-CASE-LEW-11101-1] c31 N73-32750
- MANOMETERS**
- Magnetically centered liquid column float [NASA-CASE-XAC-00030] c14 N70-34820
- Absolute pressure measuring device for measuring gas density level in high vacuum range [NASA-CASE-LAR-10000] c14 N73-30394
- MANUAL CONTROL**
- Multiple circuit switch apparatus requiring minimum hand and eye movement by operator [NASA-CASE-XAC-03777] c10 N71-15909
- Manual control mechanism for adjusting control rod to null position [NASA-CASE-XLA-01808] c15 N71-20740
- Manually activated heat pump for mechanically converting human operator output into heat energy [NASA-CASE-NPO-10677] c05 N72-11084
- Development of flight simulator system to show position of joystick displacement [NASA-CASE-NPO-11497] c08 N73-25206
- Solid state controller three axes controller [NASA-CASE-MSC-12394-1] c03 N74-10942
- G-load measuring and indicator apparatus [NASA-CASE-ARC-10806-1] c35 N75-29381
- MANUFACTURING**
- Selective gold diffusion on monolithic silicon chips for switching and nonswitching amplifier devices and circuits and linear and digital logic circuits [NASA-CASE-ERC-10072] c09 N70-11148
- Standard coupling design for mass production [NASA-CASE-XMS-02532] c15 N70-41808
- Method for making screen with unlimited fineness of mesh and screen thickness [NASA-CASE-XLE-00953] c15 N71-15966
- Describing apparatus for manufacturing operations in low and zero gravity environments of orbital space flight [NASA-CASE-MPS-20410] c15 N71-19214
- Manufacture of fluid containers from fused coated polyester sheets having resealable septum [NASA-CASE-NPO-10123] c15 N71-24835
- Method of making solid propellant rocket motor having reliable high altitude capabilities, long shelf life, and capable of firing with nozzle closure with foamed plastic permanent mandrel [NASA-CASE-XLA-04126] c28 N71-26779
- Shielded flat conductor cable fabricated by electroless and electrolytic plating [NASA-CASE-MPS-13687] c09 N71-28691
- Production method for manufacturing porous tungsten bodies from tungsten powder particles [NASA-CASE-XNP-04339] c17 N71-29137
- Method of making porous conductive supports for electrodes --- by electroforming and stacking nickel foils [NASA-CASE-GSC-11367-1] c03 N74-19692
- Apparatus for forming drive belts [NASA-CASE-NPO-13205-1] c15 N74-32917
- Bonding method in the manufacture of continuous regression rate sensor devices [NASA-CASE-LAR-10337-1] c24 N75-30260
- Method for making a hot wire anemometer and product thereof [NASA-CASE-ARC-10900-1] c35 N76-13455
- Manufacture of glass-to-metal seals wherein the cleanliness of the process is enhanced and the leak resistance of the resulting seal is maximized [NASA-CASE-LAR-11563-1] c37 N76-21558
- Process for fabricating SiC semiconductor devices [NASA-CASE-LEW-12094-1] c76 N76-25049
- MAPPING**
- Solid state device for mapping flux and power in nuclear reactor cores [NASA-CASE-XLE-00301] c14 N70-36808
- Design and development of random function tracer for obtaining coordinates of points on contour maps [NASA-CASE-XLA-01401] c15 N71-21179
- Spacecraft transponder and ground station radar system for mapping planetary surfaces [NASA-CASE-NPO-11001] c07 N72-21118
- Window defect planar mapping technique [NASA-CASE-MSC-19442-1] c74 N75-22119
- MAPS**
- Orbital and entry tracking accessory for globes --- to provide range requirements for reentry vehicles to any landing site [NASA-CASE-LAR-10626-1] c14 N74-21015
- An optical process for producing classification maps from multispectral data [NASA-CASE-MSC-14472-1] c13 N74-32780
- MASERS**
- Segmented superconducting magnet producing staggered magnetic field and suitable for broadband traveling wave masers [NASA-CASE-XGS-10518] c16 N71-28554
- Traveling wave maser for operation in 7 to 20 GHz frequency range [NASA-CASE-NPO-11437] c16 N72-28521
- Reflected-wave maser --- low noise amplifier [NASA-CASE-NPO-13490-1] c36 N76-31512
- MASKING**
- Reusable masking boot for chemical machining operations [NASA-CASE-XNP-02092] c15 N70-42033
- Composition and process for improving definition of resin masks used in chemical etching [NASA-CASE-XGS-04993] c14 N71-17574
- MASS**
- Apparatus for measuring human body mass in zero or reduced gravity environment [NASA-CASE-XMS-03371] c05 N70-42000
- Tuned damped vibration absorber for mass vibrating in more than one degree of freedom for use with wind tunnel models [NASA-CASE-LAR-10083-1] c15 N71-27006
- MASS BALANCE**
- Two plane balance for simultaneous measurements of multiple forces [NASA-CASE-XAC-00073] c14 N70-34813
- Control system for pressure balance device used in calibrating pressure gages [NASA-CASE-XMF-04134] c14 N71-23755
- MASS DISTRIBUTION**
- Electronic recording system for spatial mass distribution of liquid rocket propellant droplets or vapors ejected from high velocity nozzles [NASA-CASE-NPO-10185] c10 N71-26339
- Fluid mass sensor --- apparatus and method for measuring fluid mass in weightless condition [NASA-CASE-MSC-14653-1] c35 N75-13218
- MASS FLOW**
- Rocket engine injector orifice to accommodate changes in density, velocity, and pressure, thereby maintaining constant mass flow rate of propellant into rocket combustion chamber [NASA-CASE-XLE-03157] c28 N71-24736
- Mass flow meter containing beta source for measuring nonpolar liquid flow [NASA-CASE-MPS-20485] c14 N72-11365
- Generation of high temperature, high mass flow, and high Reynolds number air at hypersonic speeds

- [NASA-CASE-LAR-10578-1] c12 N73-25262
- MASS SPECTROMETERS**
- Analytical photoionization mass spectrometer with argon gas filter between light source and monochromator
- [NASA-CASE-LAR-10180-1] c06 N71-13461
- Design and characteristics of time of flight mass spectrometer to measure or analyze gases at low pressures and time of flight of single gas molecule
- [NASA-CASE-XNP-01056] c14 N71-23041
- Ion microprobe mass spectrometer with cooled electrode target for analyzing traces of fluids
- [NASA-CASE-ERC-10014] c14 N71-28863
- Test chambers with orifice and helium mass spectrometer for detecting leak rate of encapsulated semiconductor devices
- [NASA-CASE-ERC-10150] c14 N71-28992
- High speed scanner for measuring mass of preselected gases at high sampling rate
- [NASA-CASE-LAR-10766-1] c14 N72-21432
- Apparatus for analyzing gas samples in containers including vacuum chamber, mass spectrometer, and gas chromatography
- [NASA-CASE-GSC-10903-1] c14 N73-12444
- Quadrupole mass spectrometer using noise spectrum for ion separation and identification
- [NASA-CASE-XNP-04231] c14 N73-32325
- Fast scan control for deflection type mass spectrometers
- [NASA-CASE-LAR-11428-1] c14 N74-34857
- Mass spectrometer with magnetic pole pieces providing the magnetic fields for both the magnetic sector and an ion-type vacuum pump
- [NASA-CASE-NPO-13663-1] c35 N76-13456
- Method for fabricating a mass spectrometer inlet leak
- [NASA-CASE-GSC-12077-1] c35 N76-13465
- MASS SPECTROSCOPY**
- Moving particle composition analyzer
- [NASA-CASE-GSC-11889-1] c35 N76-16393
- MASTOIDS**
- Liquid-cooled brassiere
- [NASA-CASE-ARC-11007-1] c52 N76-18782
- MATERIAL ABSORPTION**
- Describing sorption vacuum trap having housing with group of reentrant wall portions projecting into internal gas-pervious container filled with gas and vapor sorbent material
- [NASA-CASE-XER-09519] c14 N71-18483
- MATERIALS HANDLING**
- Two component valve assembly for cryogenic liquid transfer regulation
- [NASA-CASE-XLE-00397] c15 N70-36492
- Catalyst bed element removing tool
- [NASA-CASE-XPR-00811] c15 N70-36901
- Air bearings for near frictionless transfer of loads from one body to another
- [NASA-CASE-XMP-01887] c15 N71-10617
- Quick-release coupling for fueling rocket vehicles with cryogenic propellants
- [NASA-CASE-XKS-01985] c15 N71-10782
- Method and apparatus for removing plastic insulation from wire using cryogenic equipment
- [NASA-CASE-MPS-10340] c15 N71-17628
- Fluid transferring system design for purging toxic, corrosive, or noxious fluids and fumes from materials handling equipment for cleansing and accident prevention
- [NASA-CASE-XMS-01905] c12 N71-21089
- Description of method for making homogeneous foamed materials in weightless environment using materials having different physical properties
- [NASA-CASE-XMP-09902] c15 N72-11387
- Design and characteristics of mechanically extended and telescoping boom on crane assembly
- [NASA-CASE-NPO-11118] c03 N72-25021
- Design and development of device to prevent clogging in hoppers containing particulate materials
- [NASA-CASE-LAR-10961-1] c15 N73-12496
- Development of ultrasonic radiation equipment for removing material from host surface and vacuum apparatus for recovery of material
- [NASA-CASE-NPO-11213] c15 N73-20514
- Development and characteristics of system for skin packaging articles using thermoplastic film heating and vacuum operated equipment
- [NASA-CASE-MPS-20855] c15 N73-27405
- Apparatus for inserting and removing specimens from high temperature vacuum furnaces
- [NASA-CASE-LAR-10841-1] c15 N74-27900
- Deployable flexible tunnel
- [NASA-CASE-MPS-22636-1] c37 N76-22540
- MATERIALS RECOVERY**
- Pyrolysis system and process --- recovering energy from solid wastes containing hydrocarbons
- [NASA-CASE-MSC-12669-1] c44 N76-16621
- Automated system for identifying traces of organic chemical compounds in aqueous solutions
- [NASA-CASE-NPO-13063-1] c25 N76-18245
- MATERIALS SCIENCE**
- Flammability test chamber for testing materials in certain predetermined environments
- [NASA-CASE-KSC-10126] c11 N71-24985
- Device for measuring thermoelectric properties of materials under high pressure
- [NASA-CASE-NPO-11749] c14 N73-28486
- MATERIALS TESTS**
- Development of equipment for measuring thermal shock resistance of thin discs of material
- [NASA-CASE-XLE-02024] c14 N71-22964
- Multisample test chamber for exposing materials to X rays, temperature change, and gaseous conditions and determination of material effects
- [NASA-CASE-XMS-02930] c11 N71-23042
- Automated ball rebound resilience test equipment for determining viscoelastic properties of polymers
- [NASA-CASE-XLA-08254] c14 N71-26161
- Hermetic sealing device for ends of tubular bodies during materials testing operations
- [NASA-CASE-NPO-10431] c15 N71-29132
- Development of apparatus for testing burning rate and flammability of materials
- [NASA-CASE-XMS-09690] c33 N72-25913
- Multiaxes vibration device for making vibration tests along orthogonal axes of test specimen
- [NASA-CASE-MPS-20242] c14 N73-19421
- Material testing system with load sensor for applying and measuring cyclic tensile and compressive loads to test specimens
- [NASA-CASE-MPS-20673] c14 N73-20476
- MATHEMATICAL LOGIC**
- Logical function and circuit generator
- [NASA-CASE-XLA-05099] c09 N73-13209
- MATRICES (CIRCUITS)**
- Fabrication methods for matrices of solar cell submodules
- [NASA-CASE-XNP-05821] c03 N71-11056
- Magnetic matrix memory system for nondestructive reading of information contained in matrix
- [NASA-CASE-XMP-05835] c08 N71-12504
- Conductor for connecting parallel cells into submodules in series to form solar cell matrix
- [NASA-CASE-NPO-10821] c03 N71-19545
- Reliable magnetic core circuit apparatus with application in selection matrices for digital memories
- [NASA-CASE-XNP-01318] c10 N71-23033
- Serial digital decoder design with square circuit matrix and serial memory storage units
- [NASA-CASE-NPO-10150] c08 N71-24650
- Electrically connected matrix of discrete solar cell blanks
- [NASA-CASE-NPO-10591] c03 N72-22041
- MCLEOD GAGES**
- Automatic recording McLeod gage with three electrodes and solenoid valve connection
- [NASA-CASE-XLE-03280] c14 N71-23093
- MEASURING INSTRUMENTS**
- Capacitance measuring device for determining flare accuracy on tapered tubes
- [NASA-CASE-XKS-03495] c14 N69-39785
- Characteristics and performance of electrical system to determine angular rotation
- [NASA-CASE-XMP-00447] c14 N70-33179
- Two plane balance for simultaneous measurements of multiple forces
- [NASA-CASE-XAC-00073] c14 N70-34813
- Parallel motion suspension device for measuring instruments
- [NASA-CASE-XNP-01567] c15 N70-41310
- Method and apparatus for measuring potentials in plasmas
- [NASA-CASE-XLE-00821] c25 N71-15650



- Transducer for measuring deflections from vibrating structures  
[NASA-CASE-XLA-03135] c32 N71-16428
- Gage for quality control of sealing surfaces of threaded boss  
[NASA-CASE-XMF-04966] c14 N71-17658
- Equipment for measuring partial water vapor pressure in gas tank  
[NASA-CASE-XMS-01618] c14 N71-20741
- Gauge for measuring quantity of liquid in spherical tank in reduced gravity  
[NASA-CASE-XMS-06236] c14 N71-21007
- Nonreusable energy absorbing device comprising ring member with plurality of recesses, cutting members, and guide member mounted in each recess  
[NASA-CASE-XMF-10040] c15 N71-22877
- Ablation sensor for measuring surface ablation rate of material on vehicles entering earth's atmosphere on entry into planetary atmospheres  
[NASA-CASE-XLA-01791] c14 N71-22991
- Test fixture for measuring moment of inertia of irregularly shaped body with multiple axes  
[NASA-CASE-XGS-01023] c14 N71-22992
- Electron beam deflection devices for measuring electric fields  
[NASA-CASE-XMF-10289] c14 N71-23699
- Device for measuring two orthogonal components of force with gallium flotation of measuring target for use in vacuum environments  
[NASA-CASE-XAC-04885] c14 N71-23790
- Gage for measuring internal angle of flare on end of tube  
[NASA-CASE-XMF-04415] c14 N71-24693
- Device utilizing RC rate generators for continuous slow speed measurement  
[NASA-CASE-XMF-02966] c10 N71-24863
- Solid state force measuring electromechanical transducers made of piezoresistive materials  
[NASA-CASE-ERC-10088] c26 N71-25490
- Design and development of layout tool for machine shop use to locate point in precise reference to straight or bowed reference edge  
[NASA-CASE-FRC-10005] c15 N71-26145
- Volume displacement transducer for leak detection in hermetically sealed semiconductor devices  
[NASA-CASE-ERC-10033] c14 N71-26672
- Deformation measuring apparatus with feedback control for arbitrarily shaped structures  
[NASA-CASE-LAR-10098] c32 N71-26681
- Foam insulation thickness measuring and injection device for spacecraft applications  
[NASA-CASE-MPS-20261] c14 N71-27005
- Resonant infrasonic gauging device for measuring liquid quantity in closed bladderless reservoir  
[NASA-CASE-HSC-11847-1] c14 N72-11363
- Measuring roll alignment of test body with respect to reference body  
[NASA-CASE-GSC-10514-1] c14 N72-20379
- Sensor for detecting and measuring energy, velocity and direction of travel of a cosmic dust particle  
[NASA-CASE-GSC-10503-1] c14 N72-20381
- Pumping and metering dual piston system and monitor for reaction chamber constituents  
[NASA-CASE-GSC-10218-1] c15 N72-21465
- Capacitive tank gaging device for monitoring one constituent of two phase fluid by sensing dielectric constant  
[NASA-CASE-MPS-21629] c14 N72-22442
- Development of mechanical device for measuring distance of point within sphere from surface of sphere  
[NASA-CASE-XLA-06683] c14 N72-28436
- Surface based altitude measuring system for accurately measuring altitude of airborne vehicle  
[NASA-CASE-ERC-10412-1] c09 N73-12211
- Instrument for measuring magnitude and direction of flow velocity in flow field  
[NASA-CASE-LAR-10855-1] c14 N73-13415
- Multiaxial vibration device for making vibration tests along orthogonal axes of test specimen  
[NASA-CASE-MPS-20242] c14 N73-19421
- Material testing system with load sensor for applying and measuring cyclic tensile and compressive loads to test specimens  
[NASA-CASE-MPS-20673] c14 N73-20476
- Development of droplet monitoring probe for use in analysis of droplet propagation in mixed-phase fluid stream  
[NASA-CASE-NPO-10985] c14 N73-20478
- Device for measuring thermoelectric properties of materials under high pressure  
[NASA-CASE-NPO-11749] c14 N73-28486
- Radio frequency source resistance measuring instruments of varied design  
[NASA-CASE-NPO-11291-1] c14 N73-30388
- Absolute pressure measuring device for measuring gas density level in high vacuum range  
[NASA-CASE-LAR-10000] c14 N73-30394
- Thin film analyzer utilizing holographic techniques  
[NASA-CASE-MPS-20823-1] c16 N73-30476
- Three-axis adjustable loading structure  
[NASA-CASE-FRC-10051-1] c14 N74-13129
- Thin film gauge --- for measuring convective heat transfer rates along test surfaces in wind tunnels  
[NASA-CASE-NPO-10617-1] c14 N74-22095
- Apparatus and method for processing Korotkov sounds --- for blood pressure measurement  
[NASA-CASE-MSC-13999-1] c05 N74-26626
- Electric field measuring and display system --- for cloud formations  
[NASA-CASE-KSC-10731-1] c14 N74-27862
- Device for measuring tensile forces  
[NASA-CASE-MPS-21728-1] c14 N74-27865
- Measuring probe position recorder  
[NASA-CASE-LAR-10806-1] c14 N74-32877
- Meter for use in detecting tension in straps having predetermined elastic characteristics  
[NASA-CASE-MPS-22189-1] c35 N75-19615
- Method and apparatus for measuring web material wound on a reel  
[NASA-CASE-GSC-11902-1] c35 N75-22687
- Thrust measurement  
[NASA-CASE-XMS-05731] c35 N75-29382
- Method and apparatus for background signal reduction in opto-acoustic absorption measurement  
[NASA-CASE-NPO-13683-1] c35 N75-29383
- Apparatus for measuring a sorbate dispersed in a fluid stream  
[NASA-CASE-ARC-10896-1] c34 N75-32389
- Smoke generator  
[NASA-CASE-ARC-10905-1] c31 N75-33278
- A cervix-to-rectum measuring device in a radiation applicator for use in the treatment of cervical cancer  
[NASA-CASE-GSC-12081-1] c52 N76-22890
- MECHANICAL DEVICES**
- Mechanical coordinate converter for use with spacecraft tracking antennas  
[NASA-CASE-XNP-00614] c14 N70-36907
- Load cell protection device using spring-loaded breakaway mechanism  
[NASA-CASE-XMS-06782] c32 N71-15974
- Design and development of satellite despin device  
[NASA-CASE-XMF-08523] c31 N71-20396
- Development of two force component measuring device  
[NASA-CASE-XAC-04886-1] c14 N71-20439
- Design, development, and characteristics of latching mechanism for operation in limited access areas  
[NASA-CASE-XMS-03745] c15 N71-21076
- Design of mechanical device for stirring several test tubes simultaneously  
[NASA-CASE-XAC-06956] c15 N71-21177
- Design and development of random function tracer for obtaining coordinates of points on contour maps  
[NASA-CASE-XLA-01401] c15 N71-21179
- Design and characteristics of device for closing canisters under high vacuum conditions  
[NASA-CASE-XLA-01446] c15 N71-21528
- Development of non-magnetic indexing device for orienting magnetic flux sensing instrument in magnetic field without generation of detrimental magnetic fields  
[NASA-CASE-XGS-02422] c15 N71-21529
- Design and development of module joint clamping device for application to solar array construction  
[NASA-CASE-XNP-02341] c15 N71-21531

Hand controller operable about three respectively perpendicular axes and capable of actuating signal generators for attitude control devices  
[NASA-CASE-XMS-07487] c15 N71-23255

Metal alloy bearing materials for space applications  
[NASA-CASE-XLE-05033] c15 N71-23810

Mechanical actuator wherein linear motion changes to rotational motion  
[NASA-CASE-XGS-04548] c15 N71-24045

Design and characteristics of device for showing amount of cable payed out from winch and load imposed  
[NASA-CASE-MSC-12052-1] c15 N71-24599

Design and development of release mechanism for spacecraft components, releasable despin weights, and extensible gravity booms  
[NASA-CASE-XGS-08718] c15 N71-24600

Apparatus for mechanically dispersing ultrafine metal powders subjected to shock waves  
[NASA-CASE-XLE-04946] c17 N71-24911

Self lubricating gears and other mechanical parts having surface adapted to frictional contact  
[NASA-CASE-MFS-14971] c15 N71-24984

Design and development of layout tool for machine shop use to locate point in precise reference to straight or bowed reference edge  
[NASA-CASE-PRC-10005] c15 N71-26145

Design and development of linear actuator based on bimetallic spring expansion  
[NASA-CASE-NPO-10637] c15 N72-12409

Characteristics of lightweight actuator for imparting linear motion using elongated output shaft  
[NASA-CASE-NPO-11222] c15 N72-25456

Development of mechanical device for measuring distance of point within sphere from surface of sphere  
[NASA-CASE-XLA-06683] c14 N72-28436

Development of thermal compensating structure which maintains uniform length with changes in temperature  
[NASA-CASE-MFS-20433] c15 N72-28496

Development of mating flat surfaces to inhibit leakage of fluid around shafts  
[NASA-CASE-XLE-10326-2] c15 N72-29488

Development of solar energy powered heliotrope assembly to orient solar array toward sun  
[NASA-CASE-GSC-10945-1] c21 N72-31637

Design and construction of mechanical probe for determining if object is properly secured  
[NASA-CASE-MFS-20760] c14 N72-33377

Development and characteristics of rotary actuator for use on spacecraft to deploy and support pivotal structures such as solar panels  
[NASA-CASE-NPO-10680] c31 N73-14855

Collapsible support for antenna reflector applied to installation of spacecraft antennas  
[NASA-CASE-NPO-11751] c07 N73-24176

Pneumatic foot pedal operated fluidic exercising device  
[NASA-CASE-MSC-11561-1] c05 N73-32014

Mechanical exposure interlock device for preventing film overexposure in oscilloscope camera  
[NASA-CASE-LAR-10319-1] c14 N73-32322

Reefing system  
[NASA-CASE-LAR-10129-2] c15 N74-20063

Sprag solenoid brake --- development and operations of electrically controlled brake  
[NASA-CASE-MFS-21846-1] c15 N74-26976

Solid medium thermal engine  
[NASA-CASE-ARC-10461-1] c33 N74-33379

Automatic inoculating apparatus --- includes movable carriage, drive motor, and swabbing motor  
[NASA-CASE-LAR-11074-1] c51 N75-13502

Clock setter  
[NASA-CASE-LAR-11458-1] c35 N76-16392

Apparatus for positioning modular components on a vertical or overhead surface  
[NASA-CASE-LAR-11465-1] c37 N76-21554

An artificial leg employing a mechanical energy storage device for hip disarticulation  
[NASA-CASE-ARC-10916-1] c54 N76-26871

Wrist joint assembly  
[NASA-CASE-MFS-23311-1] c37 N76-28554

## MECHANICAL DRIVES

Hydraulic drive mechanism for leveling isolation platforms  
[NASA-CASE-XMS-03252] c15 N71-10658

Antibacklash circuit for hydraulic drive system  
[NASA-CASE-XNP-01020] c03 N71-12260

Precision stepping drive device using cam disk  
[NASA-CASE-MFS-14772] c15 N71-17692

Incremental motion drive system applied to interferometer components  
[NASA-CASE-MNP-08897] c15 N71-17694

Ratchet mechanism for high speed operation at reduced backlash  
[NASA-CASE-MFS-12805] c15 N71-17805

Development of apparatus for automatically changing carriage speed of welding machine to obtain constant speed of torch along work surface  
[NASA-CASE-XMP-07069] c15 N71-23815

Drive system for parabolic tracking antenna with reversible motion and minimal backlash  
[NASA-CASE-NPO-10173] c15 N71-24696

Synchronous dc direct-drive system comprising multiple-loop hybrid control system controlling load directly connected to actuator  
[NASA-CASE-GSC-10065-1] c10 N71-27136

Energy absorption device in high precision gear train for protection against damage to components caused by stop loads  
[NASA-CASE-XNP-01848] c15 N71-28959

Automatic controlled drive mechanism for portable boring bar  
[NASA-CASE-XLA-03661] c15 N71-33518

Rotary actuator for use in environments with no rolling and sliding friction  
[NASA-CASE-NPO-10244] c15 N72-26371

Development and characteristics of rotary actuator for use on spacecraft to deploy and support pivotal structures such as solar panels  
[NASA-CASE-NPO-10680] c31 N73-14855

Optically actuated two position mechanical mover  
[NASA-CASE-NPO-13105-1] c15 N74-21060

Two speed drive system --- mechanical device for changing speed on rotating vehicle wheel  
[NASA-CASE-MFS-20645-1] c15 N74-23070

Concentric differential gearing arrangement  
[NASA-CASE-ARC-10462-1] c15 N74-27901

Geneva mechanism --- including star wheel and driver  
[NASA-CASE-NPO-13281-1] c37 N75-13266

Mechanical thermal motor  
[NASA-CASE-MFS-23062-1] c44 N75-27561

Mechanical sequencer  
[NASA-CASE-MSC-19536-1] c37 N76-19439

## MECHANICAL ENGINEERING

Manual actuator --- for spacecraft exercising machines  
[NASA-CASE-MFS-21481-1] c15 N74-18127

## MECHANICAL MEASUREMENT

Air brake device for absorbing and measuring power from rotating shafts  
[NASA-CASE-XLE-00720] c14 N70-40201

Water cooled gage for strain measurements in high temperature environments  
[NASA-CASE-XNP-09205] c14 N71-17657

Development of apparatus for measuring successive increments of strain on elastomers  
[NASA-CASE-XMP-04680] c15 N71-19489

Development of Hall effect transducer for converting mechanical shaft rotations into proportional electrical signals  
[NASA-CASE-LAR-10620-1] c09 N72-25255

Strain gage mounting assembly  
[NASA-CASE-NPO-13170-1] c35 N76-14430

## MECHANICAL PROPERTIES

Test apparatus for determining mechanical properties of refractory materials at high temperatures in vacuum or inert atmospheres  
[NASA-CASE-XLE-00335] c14 N70-35368

Electric resistance spot welding and brazing for producing metal bonds with superior mechanical and structural characteristics  
[NASA-CASE-LAR-11072-1] c15 N73-20535

## MECHANICS (PHYSICS)

Hovering type flying vehicle design and principle mechanisms for manned or unmanned use  
[NASA-CASE-MSC-12111-1] c02 N71-11039

## MEDICAL ELECTRONICS

Circuit for detecting initial systole and

- dicrotic notch --- for monitoring arterial pressure  
[NASA-CASE-LEW-11581-1] c54 N75-13531
- MEDICAL EQUIPMENT**
- Electromedical garment, applying vectorcardiologic type electrodes to human torsos for data recording during physical activity  
[NASA-CASE-XPR-10856] c05 N71-11189
- Respiration analyzing method and apparatus for determining subjects oxygen consumption in aerospace environments  
[NASA-CASE-XPR-08403] c05 N71-11202
- Laser machining device with dielectric functioning as beam waveguide for mechanical and medical applications  
[NASA-CASE-HQN-10541-2] c15 N71-27135
- Zero power telemetry actuated switch for biomedical equipment  
[NASA-CASE-ARC-10105] c09 N72-17153
- Tilting table for testing human body in variety of positions while exercising on ergometer or other biomedical devices  
[NASA-CASE-MPS-21010-1] c05 N73-30078
- Automatic device for assaying urine on bacterial adenosine triphosphate content  
[NASA-CASE-GSC-11169-2] c05 N73-32011
- Servo-controlled intravital microscope system  
[NASA-CASE-NPO-13214-1] c35 N75-25123
- Heat sterilizable patient ventilator  
[NASA-CASE-NFO-13313-1] c54 N75-27761
- Snap-in compressible biomedical electrode  
[NASA-CASE-MSC-14623-1] c52 N76-13735
- Medical subject monitoring systems --- multichannel monitoring systems  
[NASA-CASE-MSC-14180-1] c52 N76-14757
- Locking mechanism for orthopedic braces  
[NASA-CASE-GSC-12082-1] c54 N76-22914
- Readout electrode assembly for measuring biological impedance  
[NASA-CASE-ARC-10816-1] c35 N76-24525
- MEMBRANE STRUCTURES**
- Liquid junction for glass electrode or pH meters  
[NASA-CASE-NPO-10682] c15 N70-34699
- Expulsion and measuring device for determining quantity of liquid in tank under conditions of weightlessness  
[NASA-CASE-XMS-01546] c14 N70-40233
- Flexible composite membrane structure impervious to extremely reactive chemicals in rocket propellants  
[NASA-CASE-XNP-08837] c18 N71-16210
- Flexible barrier membrane comprising porous substrate and incorporating liquid gallium or indium metal used as sealant barriers for spacecraft walls and pumping liquid propellants  
[NASA-CASE-XNP-08881] c17 N71-28747
- Meteoroid capture cell construction  
[NASA-CASE-MSC-12423-1] c91 N76-30131
- MEMBRANES**
- Apparatus for measuring polymer membrane expansion in electrochemical cells  
[NASA-CASE-XGS-03865] c14 N69-21363
- Separation cell with permeable membranes for fluid mixture component separation  
[NASA-CASE-XMS-02952] c18 N71-20742
- Water insoluble, cationic permselective membrane  
[NASA-CASE-NPO-11091] c18 N72-22567
- MEMORY**
- Method for making conductors for ferrite memory arrays --- from pre-formed metal conductors  
[NASA-CASE-LAR-10994-1] c24 N75-13032
- MERCURY (METAL)**
- Interrupter switching device utilizing electrodes and mercury filled capillary tubes in which current flow vaporizes mercury as circuit breaker  
[NASA-CASE-XNP-02251] c12 N71-20896
- Method of forming ceramic to metal seals impervious to gaseous and liquid mercury at high temperature  
[NASA-CASE-XNP-01263-2] c15 N71-26312
- Development of system for delivering vaporized mercury to electron bombardment ion engine  
[NASA-CASE-NPO-10737] c28 N72-11709
- MERCURY VAPOR**
- Interrupter switching device utilizing electrodes and mercury filled capillary tubes in which current flow vaporizes mercury as circuit breaker  
[NASA-CASE-XNP-02251] c12 N71-20896
- Liquid-vapor interface seal design for turbine rotating shafts including helical and molecular pumps and liquid cooling of mercury vapor  
[NASA-CASE-XNP-02862-1] c15 N71-26294
- METABOLISM**
- Automated analysis of oxidative metabolites  
[NASA-CASE-ARC-10469-1] c25 N75-12086
- METAL BONDING**
- Bonding method for improving contact between lead telluride thermoelectric elements and tungsten electrodes  
[NASA-CASE-XGS-04554] c15 N69-39786
- Plasma spraying gun for forming diffusion bonded metal or ceramic coatings on substrates  
[NASA-CASE-XLE-01604-2] c15 N71-15610
- Describing metal valve pintle with encapsulated elastomeric body  
[NASA-CASE-MSC-12116-1] c15 N71-17648
- Apparatus for determining quality of bond between high density material and low density material  
[NASA-CASE-MPS-13686] c15 N71-18132
- Metal soldering with hydrazine monoperfluoro alkanoate for corrosion resistant coatings  
[NASA-CASE-XNP-03459] c15 N71-21078
- Leak resistant bonded elastomeric seal for secondary electrochemical cells  
[NASA-CASE-XGS-02631] c03 N71-23006
- Metal pattern bonding technique for cover glass attachment to silicon solar cells for space applications  
[NASA-CASE-XLE-08569] c03 N71-23449
- Development of electrical system for indicating optimum contact between electrode and metal surface to permit improved soldering operation  
[NASA-CASE-KSC-10242] c15 N72-23497
- Development of process for bonding resinous body in cavities of honeycomb structures  
[NASA-CASE-MSC-12357] c15 N73-12489
- Electric resistance spot welding and brazing for producing metal bonds with superior mechanical and structural characteristics  
[NASA-CASE-LAR-11072-1] c15 N73-20535
- Totally confined explosive welding --- apparatus to reduce noise level and protect personnel during explosive bonding  
[NASA-CASE-LAR-10941-1] c15 N74-21057
- Ultrasonically bonded valve assembly  
[NASA-CASE-NPO-13360-1] c37 N75-25185
- Improved bimetallic junctions  
[NASA-CASE-LEW-11573-1] c26 N76-13267
- METAL COATINGS**
- Joining aluminum to stainless steel by bonding aluminum coatings onto titanium coated stainless steel and brazing aluminum to aluminum/titanium coated steel  
[NASA-CASE-MPS-07369] c15 N71-20443
- Metal soldering with hydrazine monoperfluoro alkanoate for corrosion resistant coatings  
[NASA-CASE-XNP-03459] c15 N71-21078
- Low concentration alkaline solution treatment of aluminum with metal phosphate surface coatings to improve chemical bonding and reduce coating weight  
[NASA-CASE-XLA-01995] c18 N71-23047
- Organometallic compounds of niobium and tantalum useful for film deposition  
[NASA-CASE-XNP-04023] c06 N71-28808
- Silicide coating process and composition for protection of refractory metals from oxidation  
[NASA-CASE-XLE-10910] c18 N71-29040
- Selective nickel deposition on irradiation sensitive compounds  
[NASA-CASE-LEW-10965-1] c15 N72-25452
- Silicon carbide backward diode with coated lead attachment  
[NASA-CASE-ERC-10224-2] c09 N73-27150
- Solar cell assembly  
[NASA-CASE-LEW-11549-1] c03 N74-33484
- Panel for selectively absorbing solar thermal energy and the method of producing said panel  
[NASA-CASE-MPS-22562-1] c44 N76-14595
- Ultraviolet light reflective coating  
[NASA-CASE-GSC-11786-1] c24 N76-24363
- Germanium coated microbridge and method  
[NASA-CASE-MPS-23274-1] c76 N76-30084

## METAL CUTTING

Metal shearing energy absorber  
 [NASA-CASE-HQN-10638-1] c15 N73-30460  
 Vee-notching device --- with adjustable carriage  
 [NASA-CASE-MPS-20730-1] c14 N74-13131  
 Hole cutter --- drill bits and rotating shaft  
 [NASA-CASE-MPS-22649-1] c37 N75-25186

## METAL FIBERS

Lightweight electrically powered flexible  
 thermal laminate --- made of metal fibers  
 [NASA-CASE-MSC-12662-1] c24 N75-16635

## METAL FILMS

Means and methods of depositing thin films on  
 substrates  
 [NASA-CASE-XNP-00595] c15 N70-34967  
 Metallic film diffusion into metal or ceramic  
 surfaces for boundary lubrication in aerospace  
 environments  
 [NASA-CASE-XLE-01765] c18 N71-10772  
 Bismuth and lead surface coatings for gas  
 bearings in aerospace engineering  
 [NASA-CASE-XGS-02011] c15 N71-20739  
 Metallic film diffusion for boundary lubrication  
 in aerospace engineering  
 [NASA-CASE-XLE-10337] c15 N71-24046  
 Magnetic recording head composed of ferrite core  
 coated with thin film of aluminum-iron-silicon  
 alloy  
 [NASA-CASE-GSC-10097-1] c08 N71-27210  
 Thin absorbing metallic film for increased  
 visible light transmission  
 [NASA-CASE-LAR-10836-1] c26 N72-27784  
 Deposition of alloy films --- on irregularly  
 shaped metal object  
 [NASA-CASE-LEW-11262-1] c18 N74-13270  
 Multitarget sequential sputtering apparatus  
 [NASA-CASE-NPO-13345-1] c37 N75-19684  
 Method of forming metal hydride films  
 [NASA-CASE-LEW-12083-1] c26 N76-18262

## METAL FINISHING

Selective plating of etched circuits without  
 removing previous plating  
 [NASA-CASE-XGS-03120] c15 N71-24047  
 Surface finishing --- particularly for use in  
 smoothing irregularities on aluminum aircraft  
 wings  
 [NASA-CASE-MSC-12631-1] c02 N75-23476

## METAL FOILS

Characteristics of device for folding thin  
 flexible sheets into compact configuration  
 [NASA-CASE-XLA-00137] c15 N70-33180  
 Passive thermal control coating on aluminum foil  
 laminate for inflatable spacecraft surfaces  
 [NASA-CASE-XLA-01291] c33 N70-36617  
 Development and characteristics of thermal  
 radiation shielding of refractory metal foil  
 used for induction furnace  
 [NASA-CASE-XLE-03432] c33 N71-24145  
 Method of making porous conductive supports for  
 electrodes --- by electroforming and stacking  
 nickel foils  
 [NASA-CASE-GSC-11367-1] c03 N74-19692  
 Insulation foil and method of making  
 [NASA-CASE-LEW-11484-2] c24 N75-14839  
 Method and apparatus for tensile testing of  
 metal foil  
 [NASA-CASE-LAR-10208-1] c35 N76-18400

## METAL FUELS

Preparing oxidizer coated metal fuel particles  
 [NASA-CASE-NPO-11975-1] c27 N74-33209

## METAL HALIDES

Double discharge metal vapor laser with metal  
 halide as a lasant  
 [NASA-CASE-NPO-13448-1] c16 N74-34012  
 Process for making anhydrous metal halides  
 [NASA-CASE-LEW-11860-1] c37 N76-18458

## METAL HYDRIDES

Method of forming metal hydride films  
 [NASA-CASE-LEW-12083-1] c26 N76-18262

## METAL IONS

Chemical synthesis of thermally stable  
 organometallic polymers with divalent metal  
 ion and tetraphenylphosphonitrilic units  
 [NASA-CASE-HQN-10364] c06 N71-27363

## METAL JOINTS

Leakproof soft metal seal for use in very high  
 vacuum systems operating at cryogenic  
 temperatures  
 [NASA-CASE-XGS-02441] c15 N70-41629

## METAL MATRIX COMPOSITES

High strength reinforced metallic composites for  
 applications over wide temperature range  
 [NASA-CASE-XLE-02428] c17 N70-33288  
 Process for producing dispersion strengthened  
 nickel with aluminum comprising metallic  
 matrices embedded with oxides or other  
 hyperfine compounds  
 [NASA-CASE-XLE-06969] c17 N71-24142  
 Self lubricating gears and other mechanical  
 parts having surface adapted to frictional  
 contact  
 [NASA-CASE-MPS-14971] c15 N71-24984  
 Development of procedure for improved  
 distribution of refractory compounds and  
 micro-constituents in refractory metal matrix  
 [NASA-CASE-XLE-03940-2] c17 N72-28536  
 A heat exchanger and method of making  
 [NASA-CASE-LEW-12441-1] c34 N75-19580  
 Method of preparing graphite reinforced aluminum  
 composite  
 [NASA-CASE-MPS-21077-1] c24 N75-28135  
 Improved method of making reinforced composite  
 structures  
 [NASA-CASE-LEW-12619-1] c24 N76-16181

## METAL OXIDE SEMICONDUCTORS

Gyrator circuit using MOS field effect transistors  
 [NASA-CASE-MPS-21433] c09 N73-20232  
 Radiation hardening of MOS devices by boron ---  
 for stabilizing gate threshold potential of  
 field effect device  
 [NASA-CASE-GSC-11425-1] c24 N74-20329  
 Integrated P-channel MOS gyrator  
 [NASA-CASE-MPS-22343-1] c09 N74-34638  
 Radiation hardening of MOS devices by boron ---  
 for stabilizing gate threshold potential  
 [NASA-CASE-GSC-11425-2] c76 N75-25730

## METAL OXIDES

Process for producing dispersion strengthened  
 nickel with aluminum comprising metallic  
 matrices embedded with oxides or other  
 hyperfine compounds  
 [NASA-CASE-XLE-06969] c17 N71-24142  
 Photofabrication techniques for selective  
 removal of conductive metals oxide coatings  
 from nonconductive substrates  
 [NASA-CASE-ERC-10108] c06 N72-21094  
 Producing metal powders of controlled particle  
 size by reducing oxide using reactive metal  
 vapor in vacuum  
 [NASA-CASE-XLE-06461] c17 N72-22530  
 Method for obtaining oxygen from lunar or  
 similar soil  
 [NASA-CASE-MSC-12408-1] c13 N74-13011

## METAL PARTICLES

Magnetohydrodynamic generator for mixing  
 nonconductive gas and liquid metal mist to  
 form slugs  
 [NASA-CASE-XLE-02083] c03 N69-39983  
 Cermet for nuclear fuel constructed by pressing  
 metal coated ceramic particles in die at  
 temperature to cause bonding of metal  
 coatings, and tested for thermal stability  
 [NASA-CASE-LEW-10219-1] c18 N71-28729  
 Preparing oxidizer coated metal fuel particles  
 [NASA-CASE-NPO-11975-1] c27 N74-33209

## METAL PLATES

Development of large area micrometeoroid impact  
 detector panels  
 [NASA-CASE-XLA-05906] c31 N71-16221  
 Tungsten-coated tungsten-uranium dioxide nuclear  
 fuel plates  
 [NASA-CASE-XLE-00209] c22 N73-32528  
 Strain arrestor plate for fused silica tile ---  
 bonding of thermal insulation to metallic  
 plates or structural parts  
 [NASA-CASE-MSC-14182-1] c27 N76-14264

## METAL POWDER

Production of refractory bodies with controlled  
 porosity by pressing and heating mixtures of  
 refractory and inert metal powders  
 [NASA-CASE-LEW-10393-1] c17 N71-15468  
 Electrode sealing and insulation for fuel cells  
 containing caustic liquid electrolytes using  
 powdered plastic and metal  
 [NASA-CASE-XMS-01625] c15 N71-23022  
 Apparatus for mechanically dispersing ultrafine  
 metal powders subjected to shock waves  
 [NASA-CASE-XLE-04946] c17 N71-24911

- Method to produce high purity copper fluoride by heating copper hydroxyfluoride powder and subjecting to flowing fluorine gas  
[NASA-CASE-LEW-10794-1] c06 N72-17093
- Producing metal powders of controlled particle size by reducing oxide using reactive metal vapor in vacuum  
[NASA-CASE-XLE-06461] c17 N72-22530
- Development of apparatus for producing metal powder particles of controlled size  
[NASA-CASE-XLE-06461-2] c17 N72-28535
- Metal plating process employing spraying of metallic power/peening particle mixture  
[NASA-CASE-GSC-11163-1] c15 N73-32360
- METAL SHEETS**
- Fatigue testing apparatus with light shield and infrared reflector for high temperature evaluation of loaded sheet samples  
[NASA-CASE-XLA-01782] c14 N71-26136
- Method of making pressure tight seal for super alloy  
[NASA-CASE-LAR-10170-1] c15 N74-11301
- Method of making an explosively welded scarf joint  
[NASA-CASE-LAR-11211-1] c37 N75-12326
- Process for making sheets with parallel pores of uniform size  
[NASA-CASE-GSC-10984-1] c37 N75-26371
- Apparatus for welding sheet material --- butt joints  
[NASA-CASE-XMS-01330] c37 N75-27376
- METAL SHELLS**
- A heat exchanger and method of making  
[NASA-CASE-LEW-12441-1] c34 N75-19580
- METAL SPINNING**
- Apparatus and method for spin forming tubular elbows with high strength, uniform thickness, and close tolerances  
[NASA-CASE-XMF-01083] c15 N71-22723
- METAL STRIPS**
- Metal ribbon wrapped outer wall for regeneratively cooled combustion chamber  
[NASA-CASE-XLE-00164] c15 N70-36411
- Metal strip mounting arrangement for solar cell arrays on spacecraft  
[NASA-CASE-XGS-01475] c03 N71-11058
- Forming tubes from long thin flat metal strips  
[NASA-CASE-XGS-04175] c15 N71-18579
- High speed shutter --- electrically actuated ribbon loop for shuttering optical or fluid passageways  
[NASA-CASE-ARC-10516-1] c23 N74-21300
- METAL SURFACES**
- Condenser-separator for dehumidifying air utilizing sintered metal surface  
[NASA-CASE-XLA-08645] c15 N69-21465
- Nickel plating onto etched aluminum castings  
[NASA-CASE-XNP-04148] c17 N71-24830
- High thermal emittance black surface coatings and process for applying to metal and metal alloy surfaces used in radiative cooling of spacecraft  
[NASA-CASE-XLA-06199] c15 N71-24875
- Method for treating metal surfaces to prevent secondary electron transmission  
[NASA-CASE-XNP-09469] c24 N71-25555
- Method of forming ceramic to metal seals impervious to gaseous and liquid mercury at high temperature  
[NASA-CASE-XNP-01263-2] c15 N71-26312
- Anodizing method for providing metal surfaces with temperature reducing coatings against flames  
[NASA-CASE-XLE-00035] c33 N71-29151
- Thin film gauge --- for measuring convective heat transfer rates along test surfaces in wind tunnels  
[NASA-CASE-NPO-10617-1] c14 N74-22095
- Thermal barrier coating system  
[NASA-CASE-LEW-12554-1] c24 N76-23359
- A method for attaching a fused-quartz mirror to a conductive metal substrate  
[NASA-CASE-MPS-23405-1] c37 N76-31526
- METAL VAPORS**
- Magnetohydrodynamic generator for mixing nonconductive gas and liquid metal mist to form slugs  
[NASA-CASE-XLE-02083] c03 N69-39983
- Apparatus for producing hydrocarbon slurry containing small particles of magnesium for use as jet aircraft fuel  
[NASA-CASE-XLE-00010] c15 N70-33382
- Double discharge metal vapor laser with metal halide as a lasant  
[NASA-CASE-NPO-13448-1] c16 N74-34012
- Inert gas metallic vapor laser  
[NASA-CASE-NPO-13449-1] c36 N75-32441
- METAL WORKING**
- Controlled arc spot welding method  
[NASA-CASE-XMF-00392] c15 N70-34814
- Method and apparatus for shaping and joining large diameter metal tubes using magnetomotive forces  
[NASA-CASE-XMF-05114] c15 N71-17650
- Description of protective device for providing safe operating conditions around work piece in machine or metal working tool  
[NASA-CASE-XLE-01092] c15 N71-22797
- Description of portable milling tool for milling tube or pipe ends to desired shape and thickness  
[NASA-CASE-XMF-03511] c15 N71-22799
- Development and characteristics of frusto-conical die nib for extrusion of refractory metals  
[NASA-CASE-XLE-06773] c15 N71-23817
- Portable magnetomotive hammer for metal working  
[NASA-CASE-XMF-03793] c15 N71-24833
- Method and apparatus for portable high precision magnetomotive bulging, constricting, and joining of large diameter metal tubes  
[NASA-CASE-XMF-05114-3] c15 N71-24865
- Insert facing tool --- manually operated cutting tool for forming studs in honeycomb material  
[NASA-CASE-MPS-21485-1] c15 N74-25968
- Apparatus for forming dish ion thruster grids  
[NASA-CASE-LEW-11694-2] c37 N76-14461
- Method of producing complex aluminum alloy parts of high temper, and products thereof  
[NASA-CASE-MSC-19693-1] c26 N76-29401
- METAL-METAL BONDING**
- Joining aluminum to stainless steel by bonding aluminum coatings onto titanium coated stainless steel and brazing aluminum to aluminum/titanium coated steel  
[NASA-CASE-MPS-07369] c15 N71-20443
- Method for honeycomb panel bonding by thermosetting film adhesive with electrical heat means  
[NASA-CASE-XMF-01402] c18 N71-21651
- Capillary flow weld-bonding  
[NASA-CASE-LAR-11726-1] c37 N76-27568
- METALLOGRAPHY**
- Development of method for etching copper  
[NASA-CASE-XGS-06306] c17 N71-16044
- METALLOSILOXANE POLYMER**
- Thiophenyl ether disiloxanes and trisiloxanes useful as lubricant fluids  
[NASA-CASE-MPS-22411-1] c15 N74-21058
- METALLURGY**
- Induction heating of metallurgical specimens to high temperatures in coil furnace  
[NASA-CASE-XLE-04026] c14 N71-23267
- METALS**
- Transpiration cooled turbine blade made from metallic or ceramic wires  
[NASA-CASE-XLE-00020] c15 N70-33226
- Self lubricating fluoride-metal composite materials for outer space applications  
[NASA-CASE-XLE-08511] c18 N71-23710
- Punch and die device for forming convolution series in thin gage metal hemispheres  
[NASA-CASE-XNP-05297] c15 N71-23811
- Device for bending metal ribbon or wire  
[NASA-CASE-XLA-05966] c15 N72-12408
- Metal plating process employing spraying of metallic power/peening particle mixture  
[NASA-CASE-GSC-11163-1] c15 N73-32360
- Glass-to-metal seals comprising relatively high expansion metals  
[NASA-CASE-LEW-10698-1] c15 N74-21063
- Scanning nozzle plating system --- for etching or plating metals on substrates without masking  
[NASA-CASE-NPO-11758-1] c15 N74-23065
- Production of pure metals  
[NASA-CASE-LEW-10906-1] c06 N74-30502
- Thermocouple tape --- developed from thermoelectrically different metals  
[NASA-CASE-LEW-11072-2] c35 N76-15434

- Manufacture of glass-to-metal seals wherein the cleanliness of the process is enhanced and the leak resistance of the resulting seal is maximized  
[NASA-CASE-LAR-11563-1] c37 N76-21558
- METEORITE COLLISIONS**  
Method of and device for determining the characteristics and flux distribution of micrometeorites --- scanning puncture holes in sheet material with photoelectric cell  
[NASA-CASE-NPO-12127-1] c14 N74-13130
- METEORITES**  
Method for making pressurized meteoroid penetration detector panels  
[NASA-CASE-XLA-08916] c15 N71-29018
- METEORITIC DAMAGE**  
Capacitor sandwich structure containing metal sheets of known thickness for counting penetration rates of meteoroids  
[NASA-CASE-XLE-01246] c14 N71-10797
- METEOROID HAZARDS**  
Meteoroid impact position locator aid for manned space station  
[NASA-CASE-LAR-10629-1] c35 N75-33367
- METEOROID PROTECTION**  
Development and characteristics of protective coatings for spacecraft  
[NASA-CASE-XNP-02507] c31 N71-17679  
Development of composite structures for spacecraft to serve as anti-meteoroid device  
[NASA-CASE-LAR-10788-1] c31 N73-20880
- METEOROIDS**  
Cameras for photographing meteors in selected sky area  
[NASA-CASE-LAR-10226-1] c14 N73-19419  
Meteoroid capture cell construction  
[NASA-CASE-MSC-12423-1] c91 N76-30131
- METEOROLOGICAL BALLOONS**  
Aerodynamically stable meteorological balloon using surface roughness effect  
[NASA-CASE-XMP-04163] c02 N71-23007
- METHANE**  
High temperature gas lubricant consisting of two fluoro-bromo-methanes  
[NASA-CASE-XLE-00353] c18 N70-39897
- MICHELSON INTERFEROMETERS**  
Michelson interferometer with photodetector for optical direction sensing  
[NASA-CASE-NPO-10320] c14 N71-17655  
Servo system for retroreflector of Michelson interferometer  
[NASA-CASE-NPO-10300] c14 N71-17662  
Computerized optical system for producing multiple images of a scene simultaneously  
[NASA-CASE-MSC-12404-1] c23 N73-13661  
Interferometer mirror tilt correcting system  
[NASA-CASE-NPO-13687-1] c35 N76-14433
- MICROBALANCES**  
Null-type vacuum microbalance for measuring minute mechanical displacements  
[NASA-CASE-XAC-00472] c15 N70-40180
- MICROBIOLOGY**  
Development of variable angle device for positioning test tubes to permit optimum drying of culture medium  
[NASA-CASE-LAR-10507-1] c11 N72-25284  
Apparatus for microbiological sampling --- including automatic swabbing  
[NASA-CASE-LAR-11069-1] c35 N75-12272  
Automatic inoculating apparatus --- includes movable carriage, drive motor, and swabbing motor  
[NASA-CASE-LAR-11074-1] c51 N75-13502  
Automatic microbial transfer device  
[NASA-CASE-LAR-11354-1] c35 N75-27330
- MICROELECTRONICS**  
Separation of semiconductor wafer into chips bounded by scribe lines  
[NASA-CASE-ERC-10138] c26 N71-14354  
Vibrophonocardiograph comprising low weight and small volume piezoelectric microphone with amplifier having high input impedance for high sensitivity and low frequency response  
[NASA-CASE-XPR-07172] c05 N71-27234  
Electrical connections for thin film hybrid microcircuits  
[NASA-CASE-XMS-02182] c10 N71-28783  
Method for coating through-holes in ceramic substrates used in fabricating miniaturized electronic circuits  
[NASA-CASE-XNP-05999] c15 N71-29032  
Precision surface cutter for screen circuit negatives and other microcircuits  
[NASA-CASE-XLA-09843] c15 N72-27485  
Material compositions and processes for developing dielectric thick films used in microcircuit capacitors  
[NASA-CASE-LAR-10294-1] c26 N72-28762  
Active tuned circuits for microelectronic construction  
[NASA-CASE-GSC-11340-1] c10 N72-33230  
Germanium coated microbridge and method  
[NASA-CASE-MPS-23274-1] c76 N76-30084
- MICROFILMS**  
Apparatus for semiautomatic inspection of microfilmed documents for density, resolution, size, and position  
[NASA-CASE-MPS-20240] c14 N71-26788
- MICROMETEORITES**  
Method of and device for determining the characteristics and flux distribution of micrometeorites --- scanning puncture holes in sheet material with photoelectric cell  
[NASA-CASE-NPO-12127-1] c14 N74-13130  
Micrometeoroid velocity and trajectory analyzer  
[NASA-CASE-GSC-11892-1] c35 N76-15433
- MICROMETEOROIDS**  
Particle detector for measuring micrometeoroid velocity in space  
[NASA-CASE-XLA-00495] c14 N70-41332  
Piezoelectric transducer for detecting and measuring micrometeoroids  
[NASA-CASE-XAC-01101] c14 N70-41957  
Pressurized cell micrometeoroid detector  
[NASA-CASE-XLA-00936] c14 N71-14996  
Development of large area micrometeoroid impact detector panels  
[NASA-CASE-XLA-05906] c31 N71-16221  
Rotary bead dropper and selector for testing micrometeorite transducers  
[NASA-CASE-XGS-03304] c09 N71-22988  
Measuring micrometeoroid depth of penetration into various materials  
[NASA-CASE-XLA-00941] c14 N71-23240  
Structure of fabric layers for micrometeoroid protection garment with capability for eliminating heat shorts for use in manufacturing space suits  
[NASA-CASE-MSC-12109] c18 N71-26285  
Micrometeoroid analyzer using arrays of interconnected capacitors and ion detector  
[NASA-CASE-ARC-10443-1] c14 N73-20477  
Cold cathode discharge tube with pressurized gas cell for meteoroid detection in space  
[NASA-CASE-LAR-10483-1] c14 N73-32327  
Deployable pressurized cell structure for a micrometeoroid detector  
[NASA-CASE-LAR-10295-1] c15 N74-21062  
Semiconductor projectile impact detector  
[NASA-CASE-MPS-23008-1] c35 N76-19405
- MICROMINIATURIZATION**  
Miniaturized radiometer for detecting low level thermal radiation  
[NASA-CASE-XLA-04556] c14 N69-27484
- MICROORGANISMS**  
Development of bacteriostatic conformal coating and methods of application  
[NASA-CASE-GSC-10007] c18 N71-16046  
Portable vacuum probe surface sampler for sampling large surface areas with relatively light loading densities of microorganisms  
[NASA-CASE-LAR-10623-1] c14 N73-30395  
Measurement of gas production of microorganisms --- using pressure sensors  
[NASA-CASE-LAR-11326-1] c35 N75-33368
- MICROPARTICLES**  
Micropacked column for rapid chromatographic analysis using low gas flow rates  
[NASA-CASE-XNP-04816] c06 N69-39936
- MICROPHONES**  
Audio signal processing system for noise surge elimination at low amplitude audio input  
[NASA-CASE-MSC-12223-1] c07 N71-26181  
Vibrophonocardiograph comprising low weight and small volume piezoelectric microphone with amplifier having high input impedance for high sensitivity and low frequency response  
[NASA-CASE-XPR-07172] c05 N71-27234

- Development of wind tunnel microphone structure to minimize effects of vibrations and eliminate unwanted signals in microphone output  
[NASA-CASE-XNP-00250] c11 N71-28779
- Adjustable frequency response microphone  
[NASA-CASE-LAR-11170-1] c07 N74-12843
- MICROSCOPES**
- Absolute focus locking device for microscopes to maintain set focus for extended time period  
[NASA-CASE-LAR-10184] c14 N72-22445
- Hand-held, lightweight, portable photomicroscope  
[NASA-CASE-ARC-10468-1] c14 N73-33361
- MICROSTRUCTURE**
- Production of high strength refractory compounds and microconstituents into refractory metal matrix  
[NASA-CASE-XLE-03940] c18 N71-26153
- Development of procedure for improved distribution of refractory compounds and micro-constituents in refractory metal matrix  
[NASA-CASE-XLE-03940-2] c17 N72-28536
- Diffusion welding --- heat treatment of nickel alloys following single step vacuum welding process  
[NASA-CASE-LEW-11388-2] c15 N74-21055
- Method of determining bond quality of power transistors attached to substrates --- X ray inspection of junction microstructure  
[NASA-CASE-MPS-21931-1] c37 N75-26372
- MICROTHRUST**
- Electrostatic microthrust propulsion system with annular slit colloid thruster  
[NASA-CASE-GSC-10709-1] c28 N71-25213
- Heated porous plug microthruster for spacecraft reaction jet controlled systems such as fuel flow regulation, propellant disassociation, and heat transfer augmentation  
[NASA-CASE-GSC-10640-1] c28 N72-18766
- MICROWAVE AMPLIFIERS**
- Thermally sensitive tuning probe for nullifying detuning effects in microwave cavity resonator of amplifier  
[NASA-CASE-XNP-00449] c14 N70-35220
- MICROWAVE ANTENNAS**
- Microwave power receiving antenna solving heat dissipation problems by construction of elements as heat pipe devices  
[NASA-CASE-MPS-20333] c09 N71-13486
- Development and characteristics of low-noise multimode monopulse antenna feed system for use with microwave communication equipment  
[NASA-CASE-XNP-01735] c07 N71-22750
- Microwave omnidirectional antenna for use on spacecraft  
[NASA-CASE-XLA-03114] c09 N71-22888
- Portable equipment for validating C band launch pad antennas and transmission lines used for spacecraft checkout  
[NASA-CASE-XKS-10543] c07 N71-26292
- Multipurpose microwave antenna, employing dish reflector with plural coaxial horn feeds  
[NASA-CASE-NPO-11264] c07 N72-25174
- Omnidirectional antenna array with circumferential slots for mounting on cylindrical space vehicle  
[NASA-CASE-LAR-10163-1] c09 N72-25247
- Characteristics of microwave antenna with conical reflectors to generate plane wave front  
[NASA-CASE-NPO-11661] c07 N73-14130
- MICROWAVE CIRCUITS**
- Quasi-optical microwave circuit with dielectric body for use with oversize waveguides  
[NASA-CASE-ERC-10011] c07 N71-29065
- MICROWAVE COUPLING**
- Microwave waveguide switch with rotor position control  
[NASA-CASE-XNP-06507] c09 N71-23548
- MICROWAVE EQUIPMENT**
- Apparatus for generating microwave signals at progressively related phase angles for driving antenna array  
[NASA-CASE-ERC-10046] c10 N71-18722
- Broadband microwave waveguide window to compensate dielectric material filling  
[NASA-CASE-XNP-08880] c09 N71-24808
- Dual frequency feed systems for Cassegrainian antennas  
[NASA-CASE-NPO-13091-1] c09 N73-12214
- Resonant waveguide stark cell --- using microwave spectrometers  
[NASA-CASE-LAR-11352-1] c33 N75-26245
- Refrigerated coaxial coupling --- for microwave equipment  
[NASA-CASE-NPO-13504-1] c33 N75-30430
- MICROWAVE FILTERS**
- Microwave power divider for providing variable output power to output waveguide in fixed waveguide system  
[NASA-CASE-NPO-11031] c07 N71-33606
- Selective bandpass resonators using bandstop resonator pairs for microwave frequency operation  
[NASA-CASE-GSC-10990-1] c09 N73-26195
- MICROWAVE FREQUENCIES**
- Varactor microwave frequency mixing circuit  
[NASA-CASE-XGS-02171] c09 N69-24324
- Voltage tunable Gunn effect semiconductor for microwave generation  
[NASA-CASE-XER-07894] c09 N71-18721
- Multimode antenna feed system for microwave and broadband communication  
[NASA-CASE-GSC-11046-1] c07 N73-28013
- MICROWAVE OSCILLATORS**
- Microwave generator using Gunn effect for magnetic tuning  
[NASA-CASE-NPO-12106] c09 N73-15235
- Electron beam controller --- using magnetic field to refocus spent electron beam in microwave oscillator tube  
[NASA-CASE-LEW-11617-1] c09 N74-10195
- MICROWAVE RADIONETERS**
- Input radio frequency circuit for switching type absolute temperature measuring radiometer for noise sources  
[NASA-CASE-ERC-11020] c14 N71-26774
- MICROWAVE REFLECTOMETERS**
- Reflectometer for receiver input impedance match measurement  
[NASA-CASE-XNP-10843] c07 N71-11267
- Surface defect detection by reflected microwave radiation pattern  
[NASA-CASE-ARC-10009-1] c15 N71-17822
- MICROWAVE RESONANCE**
- Microwave double resonance spectroscopy absorption cell for gas analysis  
[NASA-CASE-LAR-10305] c14 N71-26137
- MICROWAVE SENSORS**
- Remote sensing of vegetation and soil using microwave ellipsometry  
[NASA-CASE-GSC-11976-1] c43 N76-23671
- MICROWAVE SWITCHING**
- Design of gyrator circuit using operational amplifiers to replace ungrounded inductors  
[NASA-CASE-XAC-10608-1] c09 N71-12517
- MICROWAVE TUBES**
- Electrostatic charged particle collector containing stacked electrodes for microwave tube  
[NASA-CASE-LEW-11192-1] c09 N73-13208
- MICROWAVES**
- Radio frequency noise generator having microwave slow-wave structure in gas discharge plasma  
[NASA-CASE-XER-11019] c09 N71-23598
- Method and apparatus for optically modulating light or microwave beam  
[NASA-CASE-GSC-10216-1] c23 N71-26722
- Microwave waveguide mixer  
[NASA-CASE-ERC-10179] c07 N72-20141
- Microwave power transmission system wherein level of transmitted power is controlled by reflections from receiver  
[NASA-CASE-MPS-21470-1] c10 N74-19870
- RF beam center location method and apparatus for power transmission system  
[NASA-CASE-NPO-13821-1] c44 N76-26692
- MIDAIR COLLISIONS**
- Economical satellite aided vehicle avoidance system for preventing midair collisions  
[NASA-CASE-ERC-10419] c21 N72-21631
- Development and characteristics of electronic signalling system and data processing equipment for warning systems to avoid midair collisions between aircraft  
[NASA-CASE-LAR-10717-1] c21 N73-30641
- MILLIMETER WAVES**
- Millimeter wave antenna system for spacecraft use  
[NASA-CASE-GSC-10949-1] c07 N71-28965

Millimeter wave pumped parametric amplifier  
[NASA-CASE-GSC-11617-1] c09 N74-32660

**MILLING (MACHINING)**

Rotary spindle lathe attachments for machining geometrical cones  
[NASA-CASE-XMS-04292] c15 N71-22722

**MILLING MACHINES**

Electro-optical system for maintaining two-axis alignment during milling operations on large tank-sections  
[NASA-CASE-XMP-00908] c14 N70-40238

Description of portable milling tool for milling tube or pipe ends to desired shape and thickness  
[NASA-CASE-XMP-03511] c15 N71-22799

Grinding arrangement for ball nose milling cutters  
[NASA-CASE-LAR-10450-1] c15 N74-27905

**MINIATURE ELECTRONIC EQUIPMENT**

Miniature solid state, direction sensitive, stress transducer design with bonded semiconductor piezoresistive element for sensing residual stresses  
[NASA-CASE-XNP-02983] c14 N71-21091

Transducer circuit design with single coaxial cable for input and output connections including incorporation into miniaturized catheter transducer  
[NASA-CASE-ARC-10132-1] c09 N71-24597

Solid state television camera system consisting of monolithic semiconductor mosaic sensor and molecular digital readout systems  
[NASA-CASE-XMP-06092] c07 N71-24612

Miniature ingestible telemeter devices to measure deep-body temperature  
[NASA-CASE-ARC-10583-1] c52 N76-29894

**MINIATURIZATION**

Miniature vibration isolator utilizing elastic tubing material  
[NASA-CASE-XLA-01019] c15 N70-40156

Computer circuit performing both counting and shifting logic operations also capable of miniaturization and integration in basic circuits  
[NASA-CASE-XNP-01753] c08 N71-22897

Fast response miniature carbon dioxide detector with no moving parts for measuring concentration in any atmosphere  
[NASA-CASE-MSC-13332-1] c14 N72-21408

**MIRRORS**

Pneumatic control of telescopic mirror support system  
[NASA-CASE-XLA-03271] c11 N69-24321

Oscillatory electromagnetic mirror drive system for horizon scanners  
[NASA-CASE-XLA-03724] c14 N69-27461

Servo system for retroreflector of Michelson interferometer  
[NASA-CASE-NPO-10300] c14 N71-17662

Gas laser frequency stabilized by position of mirrors in resonant cavity  
[NASA-CASE-XGS-03644] c16 N71-18614

Highly stable optical mirror assembly optimizing image quality of light diffraction patterns  
[NASA-CASE-ERC-10001] c23 N71-24868

Adjustable rigid mount for trihedral mirror formed of alloy with small coefficient of thermal expansion supporting screws and spring-biased plates  
[NASA-CASE-XNP-08907] c23 N71-29123

Optical range finder using reflective first surfaces mirror and transmitting beam splitter  
[NASA-CASE-MSC-12105-1] c14 N72-21409

Optical mirror support system  
[NASA-CASE-XER-07896-2] c23 N72-22673

Strain gauge ambiguity sensor for segmented mirror active optical system  
[NASA-CASE-MPS-20506-1] c35 N75-12273

Interferometer mirror tilt correcting system  
[NASA-CASE-NPO-13687-1] c35 N76-14433

Method for manufacturing mirrors in zero gravity environment  
[NASA-CASE-MSC-12611-1] c12 N76-15189

Method and means for testing a glancing-incidence mirror system --- for X-ray telescopes  
[NASA-CASE-MPS-22409-2] c74 N76-26988

A method for attaching a fused-quartz mirror to a conductive metal substrate  
[NASA-CASE-MPS-23405-1] c37 N76-31526

**MISSILE CONTROL**

Turnstile slot antenna  
[NASA-CASE-GSC-11428-1] c09 N74-20864

**MISSILE LAUNCHERS**

Launch pad missile release system with bending moment change rate reduction in thrust distribution structure at liftoff  
[NASA-CASE-XMP-03198] c30 N70-40353

Optical monitor panel consisting of translucent screen with test or meter information projected onto it from rear for application in control rooms of missile launching and tracking stations  
[NASA-CASE-XKS-03509] c14 N71-23175

Controlled release device for use in launching rockets or missiles  
[NASA-CASE-XKS-03338] c15 N71-24043

**MIXING CIRCUITS**

Varactor microwave frequency mixing circuit  
[NASA-CASE-XGS-02171] c09 N69-24324

Microwave waveguide mixer  
[NASA-CASE-ERC-10179] c07 N72-20141

**MOBILITY**

Traveling wave solid state amplifier utilizing a semiconductor with negative differential mobility  
[NASA-CASE-HQN-10069] c33 N75-27251

**MODE TRANSFORMERS**

Silicon controlled rectifier inverter with compensation of transients to avoid false gating  
[NASA-CASE-XLA-08507] c09 N69-39984

Dual waveguide mode source for controlling amplitudes of two modes  
[NASA-CASE-XNP-03134] c07 N71-10676

**MODULATION**

Demodulator for carrier transducers  
[NASA-CASE-MUC-10107-1] c09 N74-17930

**MODULATORS**

Fabry-Perot interferometer retrodirective reflector modulator for optical communication  
[NASA-CASE-XGS-04480] c16 N69-27491

Optical retrodirective modulator with focus spoiling reflector driven by modulation signal  
[NASA-CASE-GSC-10062] c14 N71-15605

Calibrator for measuring and modulating or demodulating laser outputs  
[NASA-CASE-XLA-03410] c16 N71-25914

Full wave modulator-demodulator amplifier apparatus --- for generating rectified output signal  
[NASA-CASE-PRC-10072-1] c09 N74-14939

**MODULES**

Biorthogonal encoder with modular design  
[NASA-CASE-NPO-10629] c08 N72-18184

**MOISTURE**

Gas purged dry box glove reducing permeation of air or moisture into dry box or isolator by diffusion through glove  
[NASA-CASE-XLB-02531] c05 N71-23080

**MOISTURE CONTENT**

Remote sensing of vegetation and soil using microwave ellipsometry  
[NASA-CASE-GSC-11976-1] c43 N76-23671

**MOISTURE METERS**

Method of evaluating moisture barrier properties of materials used in electronics encapsulation  
[NASA-CASE-NPO-10051] c18 N71-24934

**MOLDING MATERIALS**

Vacuum method for molding thermosetting compounds used as ablative materials  
[NASA-CASE-XLA-01091] c15 N71-10672

Method of making molded electric connector for use with flat conductor cables  
[NASA-CASE-XMP-03498] c15 N71-15986

Hydraulic apparatus for casting and molding of liquid polymers  
[NASA-CASE-XNP-07659] c06 N71-22975

Cold metal hydroforming techniques using epoxy molds for counteracting creep or stretch  
[NASA-CASE-XLE-05641-1] c15 N71-26346

Holding process for imidazopyrrolone polymers  
[NASA-CASE-LAR-10547-1] c15 N74-13177

Evacuated displacement compression molding  
[NASA-CASE-LAR-10782-1] c15 N74-14133

**MOLDS**

Forming mold for polishing and machining curved solar magnesium reflector with reinforcing ribs  
[NASA-CASE-XLE-08917-2] c15 N71-24836



- Using molds for fabricating individual fluid circuit components  
[NASA-CASE-XLA-07829] c15 N72-16329
- Evacuated displacement compression molding  
[NASA-CASE-LAR-10782-1] c15 N74-14133
- Molding apparatus --- for thermosetting plastic compositions  
[NASA-CASE-LAR-10489-2] c15 N74-32920
- Evacuated, displacement compression mold --- of tubular bodies from thermosetting plastics  
[NASA-CASE-LAR-10782-2] c31 N75-13111
- Method of making an apertured casting --- using duplicate mold  
[NASA-CASE-LEW-11169-1] c37 N76-23570
- MOLECULAR BEAMS**  
Selector mechanism for mechanical separation and discrimination of high velocity molecular particles  
[NASA-CASE-XLE-01533] c11 N71-10777
- Sputtering holes with ion beamlets  
[NASA-CASE-LEW-11646-1] c28 N74-31269
- MOLECULAR GASES**  
Compact hydrogenator  
[NASA-CASE-NPO-11682-1] c15 N74-15127
- MOLECULAR PUMPS**  
Omnidirectional anisotropic molecular trap, used with vacuum pump to simulate space environments for testing spacecraft components  
[NASA-CASE-XGS-00783] c30 N71-17788
- Liquid-vapor interface seal design for turbine rotating shafts including helical and molecular pumps and liquid cooling of mercury vapor  
[NASA-CASE-XNP-02862-1] c15 N71-26294
- MOLECULAR ROTATION**  
Diatomic infrared gasdynamic laser --- for producing different wavelengths  
[NASA-CASE-ARC-10370-1] c36 N75-31426
- MOLECULAR SPECTROSCOPY**  
Microwave double resonance spectroscopy absorption cell for gas analysis  
[NASA-CASE-LAR-10305] c14 N71-26137
- MOLTEN SALT ELECTROLYTES**  
Operation method for combined electrolysis device and fuel cell using molten salt to produce power by thermoelectric regeneration mechanism  
[NASA-CASE-XLE-01645] c03 N71-20904
- Zinc-halide battery with molten electrolyte  
[NASA-CASE-NPO-11961-1] c44 N76-18643
- MOLYBDENUM CARBIDES**  
Flame or plasma spraying for molybdenum coating of carbon or graphite surfaces to prevent oxidative corrosion  
[NASA-CASE-XLA-00302] c15 N71-16077
- MOLYBDENUM COMPOUNDS**  
Method for producing refractory molybdenum disilicides  
[NASA-CASE-XMS-00370] c17 N71-20941
- MOMENTS OF INERTIA**  
Test fixture for measuring moment of inertia of irregularly shaped body with multiple axes  
[NASA-CASE-XGS-01023] c14 N71-22992
- MOMENTUM**  
Utilization of momentum devices for forming attitude control and damping system for spacecraft  
[NASA-CASE-XLA-02551] c21 N71-21708
- Momentum-velocity analyzer for measuring minute space particles  
[NASA-CASE-XMS-04201] c14 N71-22990
- MONITORS**  
Fluid leakage detection system with automatic monitoring capability  
[NASA-CASE-LAR-10323-1] c12 N71-17573
- Monitoring circuit design for sampling circuit control and reduction of time-bandwidth in video communication systems  
[NASA-CASE-XNP-02791] c07 N71-23026
- Optical monitor panel consisting of translucent screen with test or meter information projected onto it from rear for application in control rooms of missile launching and tracking stations  
[NASA-CASE-XKS-03509] c14 N71-23175
- Peak polarity selector for monitoring waveforms  
[NASA-CASE-PRC-10010] c10 N71-24862
- Circuit for monitoring power supply by ripple current indication  
[NASA-CASE-KSC-10162] c09 N72-11225
- Development of droplet monitoring probe for use in analysis of droplet propagation in mixed-phase fluid stream  
[NASA-CASE-NPO-10985] c14 N73-20478
- Monitoring and recording lightning strokes in predetermined area  
[NASA-CASE-KSC-10728-1] c14 N73-32319
- Method and apparatus for optically monitoring the angular position of a rotating mirror  
[NASA-CASE-GSC-11353-1] c23 N74-21304
- MONOCHROMATIC RADIATION**  
Method and apparatus for producing intense, coherent, monochromatic light from low temperature plasma  
[NASA-CASE-XNP-04167-3] c25 N72-21693
- Apparatus for producing monochromatic light from continuous plasma source  
[NASA-CASE-XNP-04167-2] c25 N72-24753
- MONOCHROMATORS**  
Analytical photoionization mass spectrometer with argon gas filter between light source and monochromator  
[NASA-CASE-LAR-10180-1] c06 N71-13461
- Color television system for allowing monochrome television camera to produce color pictures  
[NASA-CASE-MSC-12146-1] c07 N72-17109
- MONOMERS**  
Fabrication of polyphenylquinoxaline composite articles by means of in situ polymerization of monomers  
[NASA-CASE-LEW-11879-1] c18 N74-20152
- MONOPOLE ANTENNAS**  
Monopole antenna system for maximum omnidirectional efficiency for use on satellites  
[NASA-CASE-XLA-00414] c07 N70-38200
- Flexible monopole antenna with broad bandwidth and low voltage standing wave ratio  
[NASA-CASE-MSC-12101] c09 N71-18720
- MONOPROPELLANTS**  
Ignition system for monopropellant combustion devices  
[NASA-CASE-XNP-00249] c28 N70-38249
- Catalyst bed ignition system for hydrazine propellants  
[NASA-CASE-XNP-00876] c28 N70-41311
- MONOPULSE ANTENNAS**  
Electronic and mechanical scanning control system for monopulse tracking antenna  
[NASA-CASE-XGS-05582] c07 N69-27460
- Development and characteristics of low-noise multimode monopulse antenna feed system for use with microwave communication equipment  
[NASA-CASE-XNP-01735] c07 N71-22750
- Monopulse scanning network for scanning volumetric antenna pattern  
[NASA-CASE-GSC-10299-1] c09 N71-24804
- Switchable beamwidth monopulse method and system  
[NASA-CASE-GSC-11924-1] c33 N76-27472
- MONOPULSE RADAR**  
Polarization diversity monopulse tracking receiver design without radio frequency switches  
[NASA-CASE-XGS-03501] c09 N71-20864
- Monopulse tracking system with antenna array of three radiators for deriving azimuth and elevation indications  
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holographic camera system  
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recording system  
[NASA-CASE-XNP-09453] c08 N71-19420  
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Improved phase lock loop for receiver in  
multichannel telemetry system with suppressed  
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[NASA-CASE-XMS-01625] c15 N71-23022  
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synchronous satellite or ground based radar  
[NASA-CASE-GSC-10553-1] c07 N71-19854  
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intermeshing docking turrets for rotating  
space stations  
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[NASA-CASE-GSC-11388-1] c07 N73-24187  
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[NASA-CASE-XGS-01983] c10 N70-41964  
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[NASA-CASE-XNP-09830] c14 N71-26266  
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[NASA-CASE-LAR-11087-1] c02 N73-26008  
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[NASA-CASE-LAR-11310-1] c28 N73-31699  
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[NASA-CASE-LAR-10941-2] c15 N73-32371  
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[NASA-CASE-LEW-11569-1] c28 N74-15453  
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[NASA-CASE-LEW-11402-1] c28 N74-28226  
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[NASA-CASE-MS-C-12607-1] c32 N75-21485  
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[NASA-CASE-ARC-10812-1] c07 N76-18131  
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wind tunnel  
[NASA-CASE-MFS-23099-1] c09 N76-23273  
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[NASA-CASE-MS-C-12640-1] c74 N76-31998

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absolute temperature measuring radiometer for  
noise sources  
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Threshold extension device for improving  
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demodulators by eliminating click-type noise  
impulses  
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[NASA-CASE-NPO-10141] c11 N71-24964  
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[NASA-CASE-MFS-20240] c14 N71-26788  
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[NASA-CASE-XNP-02221] c18 N71-27170  
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abnormal voids in low density materials  
[NASA-CASE-MFS-20044] c14 N71-28993  
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[NASA-CASE-MFS-21704-1] c35 N75-25124  
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[NASA-CASE-MFS-23299-1] c39 N76-26583  
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Plasma probes having guard ring and primary  
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Intumescent paint containing nitrile rubber for  
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[NASA-CASE-ARC-10196-1] c18 N73-13562  
Non-flammable elastomeric fiber from a  
fluorinated elastomer and containing an  
halogenated flame retardant  
[NASA-CASE-MS-C-14331-1] c27 N76-24405

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Coherent receiver employing nonlinear coherence  
detection for carrier tracking  
[NASA-CASE-NPO-11921-1] c07 N74-30523  
Nonlinear nonsingular feedback shift registers  
[NASA-CASE-NPO-13451-1] c33 N76-14373

**NONLINEAR SYSTEMS**

Detector assembly for discriminating first  
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second signal at time of occurrence of first  
signal  
[NASA-CASE-XNP-00701] c09 N70-40272  
Describing continuous analog to digital  
converter with parallel digital output and  
nonlinear feedback  
[NASA-CASE-XAC-04031] c08 N71-18594  
Split range transducer  
[NASA-CASE-XLA-11189] c10 N72-20222

**NOSE CONES**

Automatically deploying nozzle exit cone extension  
[NASA-CASE-XLE-01640] c31 N71-15637  
Nose cone mounted heat resistant antenna  
comprising plurality of adjacent layers of  
silica not introducing paths of high thermal  
conductivity through ablative shield  
[NASA-CASE-XMS-04312] c07 N71-22984

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Nose gear steering system for vehicles with main  
skids to provide directional stability after  
loss of aerodynamic control  
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[NASA-CASE-MFS-20730-1] c14 N74-13131

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High thrust annular liquid propellant rocket engine and exhaust nozzle design  
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Penshaped, supersonic exhaust nozzle design  
[NASA-CASE-XLE-00057] c28 N70-38711  
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[NASA-CASE-XLE-103477-1] c28 N71-20330  
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[NASA-CASE-XNP-02888] c18 N71-21068  
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[NASA-CASE-NPO-11758-1] c15 N74-23065

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[NASA-CASE-XLA-01163] c21 N71-15582  
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[NASA-CASE-XGS-01143] c31 N71-15647  
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[NASA-CASE-NPO-10185] c10 N71-26339  
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**NUCLEAR EXPLOSION EFFECT**

Development of method for protecting large and oddly shaped areas from radiant and convective heat  
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[NASA-CASE-NPO-13121-1] c22 N73-12702

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Tungsten-coated tungsten-uranium dioxide nuclear fuel plates  
[NASA-CASE-XLE-00209] c22 N73-32528

**NUCLEAR MAGNETIC RESONANCE**

Variable frequency nuclear magnetic resonance spectrometer providing drive signals over wide frequency range and minimizing noise effects  
[NASA-CASE-XNP-09830] c14 N71-26266

**NUCLEAR POWER PLANTS**

Development and characteristics of natural circulation radiator for use with nuclear power plants installed in lunar space stations  
[NASA-CASE-XHQ-03673] c33 N71-29046

**NUCLEAR REACTOR CONTROL**

Absorbing gas reactivity control system for minimizing power distribution and perturbation in nuclear reactors  
[NASA-CASE-XLE-04599] c22 N72-20597

**NUCLEAR REACTORS**

Low cost efficient thermionic converter for use in nuclear reactors

[NASA-CASE-NPO-13121-1] c22 N73-12702

**NUCLEAR ROCKET ENGINES**

Nuclear gaseous reactor for heating working fluid to high temperatures  
[NASA-CASE-XLE-00321] c22 N70-34572

**NUCLEATE BOILING**

Method for improving heat transfer characteristics in nucleate boiling process  
[NASA-CASE-XMS-04268] c33 N71-16277

**NULL ZONES**

Manual control mechanism for adjusting control rod to null position  
[NASA-CASE-XLA-01808] c15 N71-20740

**NUMBER THEORY**

Binary concatenated coding system  
[NASA-CASE-MSC-14082-1] c60 N76-23850

**NUMERICAL CONTROL**

Digital sensor for counting fringes produced by interferometers with improved sensitivity and one photomultiplier tube to eliminate alignment problem  
[NASA-CASE-LAR-10204] c14 N71-27215

**NUMERICAL INTEGRATION**

Apparatus for computing square roots  
[NASA-CASE-XGS-04768] c08 N71-19437

**NUOTATION**

Flexible turnstile antenna system for reducing nutation in spin-oriented satellites  
[NASA-CASE-XNP-00442] c31 N71-10747  
Nutation damper for use on spinning body  
[NASA-CASE-GSC-11205-1] c15 N73-25513

**NUTS (FASTENERS)**

Contamination free separation nut eliminating combustion products from ambient surroundings generated by squib firing  
[NASA-CASE-XGS-01971] c15 N71-15922  
Split nut and bolt separation device  
[NASA-CASE-XNP-06914] c15 N71-21489  
Device for securing together structural members with axially stretched bolt and nut  
[NASA-CASE-GSC-11149-1] c15 N73-30457

**O****O RING SEALS**

High pressure four-way valve with O ring adapted to pass across inlet port  
[NASA-CASE-XNP-00214] c15 N70-36908

**OBLIQUE WINGS**

Oblique-wing supersonic aircraft  
[NASA-CASE-ARC-10470-3] c05 N76-29217

**OCEAN SURFACE**

High visibility air sea rescue panel  
[NASA-CASE-MSC-12564-1] c54 N76-15792

**OHMMETERS**

Development of electrical system for indicating optimum contact between electrode and metal surface to permit improved soldering operation  
[NASA-CASE-KSC-10242] c15 N72-23497

**OIL RECOVERY**

Oil and fat absorbing polymers  
[NASA-CASE-NPO-11609-A] c27 N76-26345

**OILS**

Color photointerpretation of interference colors reflected from thin film oil-coated components in moving gases for gas flow visualization  
[NASA-CASE-XNP-01779] c12 N71-20815

Oil and fat absorbing polymers  
[NASA-CASE-NPO-11609-A] c27 N76-26345

**OMNIDIRECTIONAL ANTENNAS**

Microwave omnidirectional antenna for use on spacecraft  
[NASA-CASE-XLA-03114] c09 N71-22888

Vertically stacked collinear array of independently fed omnidirectional antennas for use in collision warning systems on commercial aircraft  
[NASA-CASE-LAR-10545-1] c09 N72-21244

Omnidirectional antenna array with circumferential slots for mounting on cylindrical space vehicle  
[NASA-CASE-LAR-10163-1] c09 N72-25247

**ONBOARD EQUIPMENT**

Survival couch for aircraft or spacecraft crews  
[NASA-CASE-XLA-00118] c05 N70-33285

Cryogenic storage system for gases onboard spacecraft  
[NASA-CASE-XMS-04390] c31 N70-41871

- Fiber optic transducers for monitoring and analysis of vibration in aerospace vehicles and onboard equipment  
[NASA-CASE-XMP-02433] c14 N71-10616
- Design and construction of satellite appendage tie-down cord  
[NASA-CASE-XGS-02554] c31 N71-21064
- Satellite aided aircraft collision avoidance system effective for large number of aircraft  
[NASA-CASE-ERC-10090] c21 N71-24948
- Closed loop servosystem for variable speed tape recorders onboard spacecraft  
[NASA-CASE-NPO-10700] c07 N71-33613
- Collapsible couch system for manned space vehicles  
[NASA-CASE-MSC-13140] c05 N72-11085
- Monostable multivibrator for conserving power in spacecraft systems  
[NASA-CASE-GSC-10082-1] c10 N72-20221
- Delayed simultaneous appendage release mechanism for use on spacecraft equipped with despin mechanisms and releasable components  
[NASA-CASE-GSC-10814-1] c03 N73-20039
- Electronic strain level counter on in-flight aircraft  
[NASA-CASE-LAR-10756-1] c32 N73-26910
- Magnetic heading reference  
[NASA-CASE-LAR-11387-1] c04 N76-20114
- OPHTHALMOLOGY**
- Ultrasonic device for ophthalmic eye surgery with safe removal of macerated material  
[NASA-CASE-LEW-11669-1] c05 N73-27062
- Ophthalmic liquifaction pump  
[NASA-CASE-LEW-12051-1] c52 N75-33640
- Improved tissue macerating instrument --- ophthalmic liquifaction pump  
[NASA-CASE-LEW-12668-1] c52 N76-23837
- OPTICAL COMMUNICATION**
- Fabry-Perot interferometer retrodirective reflector modulator for optical communication  
[NASA-CASE-XGS-04480] c16 N69-27491
- Specifications and drawings for semipassive optical communication system  
[NASA-CASE-XLA-01090] c07 N71-12389
- Optical communication system with gas filled waveguide for laser beam transmission  
[NASA-CASE-HQN-10541-4] c16 N71-27183
- Development and characteristics of optical communications system based on modulation of light beams  
[NASA-CASE-XLA-01090] c16 N71-28963
- High resolution radar transmitting system for transmitting optical pulses to targets  
[NASA-CASE-NPO-11426] c07 N73-26119
- Apparatus for simulating optical transmission links  
[NASA-CASE-GSC-11877-1] c74 N76-18913
- Wideband heterodyne receiver for a laser communication system  
[NASA-CASE-GSC-12053-1] c36 N76-20466
- Fiber distributed feedback laser  
[NASA-CASE-NPO-13531-1] c36 N76-24553
- Polarization compensator for optical communications  
[NASA-CASE-GSC-11782-1] c74 N76-30053
- OPTICAL CORRECTION PROCEDURE**
- Opto-mechanical subsystem with temperature compensation through isothermal design  
[NASA-CASE-GSC-12059-1] c39 N76-23625
- OPTICAL COUPLING**
- Automatic quadrature control and measuring system --- using optical coupling circuitry  
[NASA-CASE-MFS-21660-1] c14 N74-21017
- OPTICAL DATA PROCESSING**
- Optical data processing system using paraboloidal reflecting surfaces  
[NASA-CASE-GSC-11296-1] c23 N73-30666
- Recorder/processor apparatus --- for optical data processing  
[NASA-CASE-GSC-11553-1] c07 N74-15831
- OPTICAL EMISSION SPECTROSCOPY**
- Maksutov spectrograph for low light level research  
[NASA-CASE-XLA-10402] c14 N71-29041
- OPTICAL EQUIPMENT**
- Detection instrument for light emitted from ATP biochemical reaction  
[NASA-CASE-XGS-05534] c23 N71-16355
- Optical characteristics measuring apparatus  
[NASA-CASE-INP-08840] c23 N71-16365
- Combined optical attitude and altitude indicating instrument for use in aircraft or spacecraft  
[NASA-CASE-XLA-01907] c14 N71-23268
- Design and development of optical interferometer with laser light source for application to schlieren systems  
[NASA-CASE-XLA-04295] c16 N71-24170
- Highly stable optical mirror assembly optimizing image quality of light diffraction patterns  
[NASA-CASE-ERC-10001] c23 N71-24868
- Optical device containing rotatable prism and reflecting mirror for generating precise angles  
[NASA-CASE-XGS-04173] c19 N71-26674
- Development and characteristics of Petzval type objective including field shaping lens for focusing light of specified wavelength band on curved photoreceptor  
[NASA-CASE-GSC-10700] c23 N71-30027
- Slotted fine-adjustment support for optical devices  
[NASA-CASE-MFS-20249] c15 N72-11386
- Development of process for constructing protective covers for solar cells  
[NASA-CASE-GSC-11514-1] c03 N72-24037
- Development of light sensing system for controlled orientation of object relative to sun or other light source  
[NASA-CASE-NPO-11311] c14 N72-25414
- Borescope with adjustable hinged telescoping optical system  
[NASA-CASE-MFS-15162] c14 N72-32452
- Development and characteristics of cyclically operable, optical shutter for use as focal plane shutter for transmitting single radiation pulses  
[NASA-CASE-NPO-10758] c14 N73-14427
- Method for producing reticles for use in outer space  
[NASA-CASE-GSC-11188-2] c21 N73-19630
- Method and equipment for locating earth infrared horizon from space, independent of season and latitude  
[NASA-CASE-LAR-10726-1] c14 N73-20475
- Optical imaging system for increasing light absorption efficiency of imaging detector  
[NASA-CASE-ARC-10194-1] c23 N73-20741
- Development of optical system for detecting defective components in rotating machinery with emphasis on bearing assemblies  
[NASA-CASE-KSC-10752-1] c15 N73-27407
- Attitude sensor  
[NASA-CASE-LAR-10586-1] c14 N74-15089
- Formation of star tracking reticles  
[NASA-CASE-GSC-11188-3] c14 N74-20008
- Method and apparatus for optically monitoring the angular position of a rotating mirror  
[NASA-CASE-GSC-11353-1] c23 N74-21304
- Single reflector interference spectrometer and drive system therefor  
[NASA-CASE-NPO-11932-1] c14 N74-23040
- Strain gauge ambiguity sensor for segmented mirror active optical system  
[NASA-CASE-MFS-20506-1] c35 N75-12273
- Optical instrument employing reticle having preselected visual response pattern formed thereon  
[NASA-CASE-ARC-10976-1] c74 N76-20959
- Optical alignment device  
[NASA-CASE-ARC-10932-1] c74 N76-22993
- Visual examination apparatus  
[NASA-CASE-RE-ARC-10329-2] c52 N76-30793
- OPTICAL FILTERS**
- Lens assembly for solar furnace or solar simulator  
[NASA-CASE-XNP-04111] c14 N71-15622
- Noise elimination in coherent imaging system by axial rotation of optical lense for spectral distribution of degrading affects  
[NASA-CASE-GSC-11133-1] c23 N72-11568
- Optical conversion method  
[NASA-CASE-MSC-12618-1] c74 N76-18917
- Cubic interleaver --- fiber optic image processing device  
[NASA-CASE-GSC-12111-1] c74 N76-23983
- Optical noise suppression device and method --- laser light exposing film  
[NASA-CASE-MSC-12640-1] c74 N76-31998
- OPTICAL HETERODYNING**
- Computerized optical system for producing

- multiple images of a scene simultaneously  
[NASA-CASE-MSC-12404-1] c23 N73-13661  
Gregorian all-reflective optical system  
[NASA-CASE-GSC-12058-1] c74 N76-23984
- OPTICAL MEASUREMENT**  
Passive optical wind and turbulence remote detection system  
[NASA-CASE-XMF-14032] c20 N71-16340  
Ellipsoidal mirror reflector for measuring reflectance  
[NASA-CASE-XGS-05291] c23 N71-16341  
Single reflector interference spectrometer and drive system therefor  
[NASA-CASE-NPO-11932-1] c14 N74-23040  
Hybrid holographic non-destructive test system --- optical and acoustical methods capable of detecting flaws in materials  
[NASA-CASE-MFS-23114-1] c35 N76-24529
- OPTICAL MEASURING INSTRUMENTS**  
Design and development of optically pumped resonance magnetometer for determining vectoral components in spatial coordinate system  
[NASA-CASE-XGS-04879] c14 N71-20428  
Optical gauging system for monitoring machine tool alignment  
[NASA-CASE-XAC-09489-1] c15 N71-26673  
Optical system for selecting particular wavelength light beams from multiple wavelength light source  
[NASA-CASE-ERC-10248] c14 N72-17323  
Optical sensing of supersonic flows by correlating deflections in laser beams through flow  
[NASA-CASE-MFS-20642] c14 N72-21407  
Multiparameter vision testing apparatus  
[NASA-CASE-MSC-13601-2] c54 N75-27759  
Gregorian all-reflective optical system  
[NASA-CASE-GSC-12058-1] c74 N76-23984
- OPTICAL MEMORY (DATA STORAGE)**  
Cubic interleaver --- fiber optic image processing device  
[NASA-CASE-GSC-12111-1] c74 N76-23983
- OPTICAL PATHS**  
Optical instruments  
[NASA-CASE-MSC-14096-1] c14 N74-15095
- OPTICAL PROPERTIES**  
Remote-reading torquemeter for use where high horsepower are transmitted at high rotate speeds  
[NASA-CASE-XLE-00503] c14 N70-34818  
Quasi-optical microwave circuit with dielectric body for use with oversize waveguides  
[NASA-CASE-ERC-10011] c07 N71-29065  
Development of light sensing system for controlled orientation of object relative to sun or other light source  
[NASA-CASE-NPO-11311] c14 N72-25414  
Design and development of light sensing device for controlling orientation of object relative to sun or other light source  
[NASA-CASE-NPO-11201] c14 N72-27409  
Device and method for determining X ray reflection efficiency, scattering properties, and surface finish of optical surfaces  
[NASA-CASE-MFS-20243] c23 N73-13662  
Formation of star tracking reticles  
[NASA-CASE-GSC-11188-3] c14 N74-20008  
Optically actuated two position mechanical mover  
[NASA-CASE-NPO-13105-1] c15 N74-21060  
Real time reflectometer  
[NASA-CASE-MFS-23118-1] c35 N76-26446
- OPTICAL PUMPING**  
Xenon flashlamp driver system for optical laser pumping  
[NASA-CASE-ERC-10283] c16 N72-25485  
Laser head for simultaneous optical pumping of several dye lasers --- with single flash lamp  
[NASA-CASE-LAR-11341-1] c36 N75-19655
- OPTICAL PYROMETERS**  
Filter arrangement for controlling light intensity in motion picture camera used in optical pyrometry  
[NASA-CASE-XLA-00062] c14 N70-33254
- OPTICAL RADAR**  
Acquisition and tracking system for optical radar  
[NASA-CASE-MFS-20125] c16 N72-13437
- OPTICAL RANGE FINDERS**  
Electro-optical attitude sensing device for landing approach of flight vehicle  
[NASA-CASE-XMS-01994-1] c14 N72-17326  
Optical range finder using reflective first surfaces mirror and transmitting beam splitter  
[NASA-CASE-MSC-12105-1] c14 N72-21409
- OPTICAL REFLECTION**  
Hybrid holographic system using reference, transmitted, and reflected beams simultaneously  
[NASA-CASE-MFS-20074] c16 N71-15565  
Optical device containing rotatable prism and reflecting mirror for generating precise angles  
[NASA-CASE-XGS-04173] c19 N71-26674  
Illumination system design for use as sunlight simulator in space environment simulators with multiple light sources reflected to single virtual source  
[NASA-CASE-HQN-10781] c23 N71-30292  
Composition of diffuse reflective coating containing sodium chloride in combination with diol solvent and organic wetting and drying agents  
[NASA-CASE-GSC-11214-1] c06 N73-13128  
Schlieren system employing antiparallel reflector in the forward direction  
[NASA-CASE-ARC-10971-1] c09 N76-26224
- OPTICAL RESONANCE**  
Design and development of optically pumped resonance magnetometer for determining vectoral components in spatial coordinate system  
[NASA-CASE-XGS-04879] c14 N71-20428  
Laser system with an antiresonant optical ring  
[NASA-CASE-HQN-10844-1] c36 N75-19653
- OPTICAL SCANNERS**  
Optical scanner mounted on rotating support structure with method of compensating for image or satellite rotation  
[NASA-CASE-XGS-02401] c14 N69-27485  
Optical apparatus for visual detection of roundness and regularity of cone surfaces  
[NASA-CASE-XMF-00462] c14 N70-34298  
Electro-optical system with scan-in illuminator and scan-out photosensor for scanning variable transmittance objects  
[NASA-CASE-NPO-11106] c14 N70-34697  
Multi-lobar scan horizon sensor  
[NASA-CASE-XGS-00809] c21 N70-35427  
Optical scanner with linear housing and rotating camera  
[NASA-CASE-NPO-11002] c14 N72-22441  
Spacecraft attitude sensing system design with narrow field of view sensor rotating about spacecraft x-y axis  
[NASA-CASE-GSC-10890-1] c21 N73-30640  
Optical instruments  
[NASA-CASE-MSC-14096-1] c14 N74-15095  
Dual digital video switcher  
[NASA-CASE-KSC-10782-1] c33 N75-30431  
Traffic survey system --- using optical scanners  
[NASA-CASE-MFS-22631-1] c66 N76-19888  
Optical scanner  
[NASA-CASE-LAR-11711-1] c74 N76-23985
- OPTICAL TRACKING**  
Sun tracker with rotatable plane-parallel plate and two photocells  
[NASA-CASE-XGS-01159] c21 N71-10678  
Optical tracker with pair of FM reticles having patterns 90 deg out of phase  
[NASA-CASE-XGS-05715] c23 N71-16100  
Tracking mount for laser telescope employed in tracking large rockets and space vehicles to give information regarding azimuth and elevation  
[NASA-CASE-MFS-14017] c14 N71-26627
- OPTICAL TRANSFER FUNCTION**  
Electronic optical transfer function analyzer  
[NASA-CASE-MFS-21672-1] c74 N76-19935
- OPTIMIZATION**  
Power point tracker for maintaining optimal output voltage of power source  
[NASA-CASE-GSC-10376-1] c14 N71-27407
- ORBITAL MECHANICS**  
Design and development of space shuttle system for delivering payload to earth orbit or celestial orbit  
[NASA-CASE-MSC-12391] c30 N73-12884
- ORBITAL SPACE STATIONS**  
Radial module manned space station with artificial gravity environment  
[NASA-CASE-XMS-01906] c31 N70-41373  
Internal and external serpentine devices for performing physical operations around orbital

- space stations  
[NASA-CASE-XMF-05344] c31 N71-16345
- Describing apparatus for manufacturing operations in low and zero gravity environments of orbital space flight  
[NASA-CASE-MPS-20410] c15 N71-19214
- ORBITAL WORKSHOPS**
- Combined docking and grasping device  
[NASA-CASE-MPS-23088-1] c18 N75-29160
- ORGANIC CHEMISTRY**
- Process for interfacial polymerization of pyromellitic dianhydride and tetraamino benzene  
[NASA-CASE-XLA-03104] c06 N71-11235
- Amino acid analysis  
[NASA-CASE-NPO-12130-1] c25 N75-14844
- ORGANIC COMPOUNDS**
- Synthesis of high purity dianilinosilanes  
[NASA-CASE-XMF-06409] c06 N71-23230
- Preparation of dicyanoacetylene and vinylidene copolymers using organic compounds  
[NASA-CASE-XNP-03250] c06 N71-23500
- Infusible polymer production from reaction of polyfunctional epoxy resins with polyfunctional aziridine compounds  
[NASA-CASE-NPO-10701] c06 N71-28620
- Composition of diffuse reflective coating containing sodium chloride in combination with diol solvent and organic wetting and drying agents  
[NASA-CASE-GSC-11214-1] c06 N73-13128
- Analysis of volatile organic compounds --- quantitative and qualitative analysis of trace amounts in gas samples  
[NASA-CASE-MSC-14428-1] c06 N74-19776
- Automated system for identifying traces of organic chemical compounds in aqueous solutions  
[NASA-CASE-NPO-13063-1] c25 N76-18245
- ORGANIC LIQUIDS**
- Inorganic-organic battery separator for alkaline batteries  
[NASA-CASE-LEW-12649-1] c44 N76-31674
- ORGANOMETALLIC COMPOUNDS**
- Ammonium perchlorate composite propellant with organic Cu/II/ chelate catalytic additive  
[NASA-CASE-LAR-10173-1] c27 N71-14090
- Organometallic compounds of niobium and tantalum useful for film deposition  
[NASA-CASE-XNP-04023] c06 N71-28808
- ORGANOMETALLIC POLYMERS**
- Chemical synthesis of thermally stable organometallic polymers with divalent metal ion and tetraphenylphosphonitrilic units.  
[NASA-CASE-HQN-10364] c06 N71-27363
- Thiophenyl ether disiloxanes and trisiloxanes useful as lubricant fluids  
[NASA-CASE-MPS-22411-1] c15 N74-21058
- ORIFICE FLOW**
- Relief valve to permit slow and fast bleeding rates at difference pressure levels  
[NASA-CASE-XMS-05894-1] c15 N69-21924
- ORIFICES**
- Rocket engine injector orifice to accommodate changes in density, velocity, and pressure, thereby maintaining constant mass flow rate of propellant into rocket combustion chamber  
[NASA-CASE-XLE-03157] c28 N71-24736
- ORTHOGONAL MULTIPLEXING THEORY**
- Encoders designed to generate comma free biorthogonal Reed-Muller type code comprising conversion of 64 6-bit words into 64 32-bit data for communication purposes  
[NASA-CASE-NPO-10595] c10 N71-25917
- ORTHOGONALITY**
- Device for measuring two orthogonal components of force with gallium flotation of measuring target for use in vacuum environments  
[NASA-CASE-XAC-04885] c14 N71-23790
- ORTHOPEDICS**
- Locking mechanism for orthopedic braces  
[NASA-CASE-GSC-12082-1] c54 N76-22914
- ORTHOTROPIC CYLINDERS**
- Method for shaping regeneratively cooled rocket motor casing having minimum thickness at each channel cross section  
[NASA-CASE-XLE-00409] c28 N71-15658
- Regeneratively cooled rocket motor casing with tapered channels to insure minimum thicknesses at each channel cross section for necessary strength requirements
- [NASA-CASE-XLE-05689] c28 N71-15659
- OSCILLATION DAMPERS**
- Design and operation of viscous pendulum damper  
[NASA-CASE-XLA-02079] c12 N71-16894
- Stabilization system for gravity-oriented satellites using single damper rod  
[NASA-CASE-XAC-01591] c31 N71-17729
- Suspended mass oscillation damper based on impact energy absorption for damping wind induced oscillations of tall stacks, antennas, and umbilical towers  
[NASA-CASE-LAR-10193-1] c15 N71-27146
- Damper system for alleviating air flow shock loads on wind tunnel models  
[NASA-CASE-XLA-09480] c11 N71-33612
- OSCILLATIONS**
- Development of electrical circuit for suppressing oscillations across inductor operating in resonant mode  
[NASA-CASE-BRC-10403-1] c10 N73-26228
- OSCILLATORS**
- Oscillatory electromagnetic mirror drive system for horizon scanners  
[NASA-CASE-XLA-03724] c14 N69-27461
- Frequency control network for current feedback oscillators converting dc voltage to ac or higher dc voltages  
[NASA-CASE-GSC-10041-1] c10 N71-19418
- Development and characteristics of oscillating static inverter  
[NASA-CASE-IGS-05289] c09 N71-19470
- Voltage controlled oscillators and pulse amplitude modulation for signal ratio system  
[NASA-CASE-XNP-04367] c09 N71-23545
- Development and characteristics of fluid oscillator analog to digital converter with variable frequency controlled by signal passing through conditioning circuit  
[NASA-CASE-LEW-10345-1] c10 N71-25899
- Wideband voltage controlled oscillator with high phase stability  
[NASA-CASE-XLA-03893] c10 N71-27271
- Variable frequency subcarrier oscillator with temperature compensation  
[NASA-CASE-XNP-03916] c09 N71-28810
- Inverter oscillator with voltage feedback  
[NASA-CASE-NPO-10760] c09 N72-25254
- Controlled oscillator system with a time dependent output frequency  
[NASA-CASE-NPO-11962-1] c09 N74-10194
- Ultra-stable oscillator with complementary transistors  
[NASA-CASE-GSC-11513-1] c09 N74-20862
- LC-oscillator with automatic stabilized amplitude via bias current control --- power supply circuit for transducers  
[NASA-CASE-MPS-21698-1] c09 N74-26732
- Ion and electron detector for use in an ICR spectrometer  
[NASA-CASE-NPO-13479-1] c14 N74-32890
- Frequency modulated oscillator  
[NASA-CASE-MPS-23181-1] c33 N75-21518
- OSCILLOSCOPES**
- Sign wave generation simulator for variable amplitude, frequency, damping, and phase pulses for oscilloscope display  
[NASA-CASE-NPO-10251] c10 N71-27365
- Scan oscilloscope for mapping surface sensitivity of photomultiplier tube  
[NASA-CASE-LAR-10320-1] c09 N72-23172
- Mechanical exposure interlock device for preventing film overexposure in oscilloscope camera  
[NASA-CASE-LAR-10319-1] c14 N73-32322
- X-Y alphanumeric character generator for oscilloscopes  
[NASA-CASE-GSC-11582-1] c33 N75-19517
- OUTER PLANETS EXPLORERS**
- Spectrometer integrated with a facsimile camera  
[NASA-CASE-LAR-11207-1] c35 N75-19613
- OUTGASSING**
- Optical characteristics measuring apparatus  
[NASA-CASE-XNP-08840] c23 N71-16365
- Helium outgassing process for fused glass coating on ion accelerator grid  
[NASA-CASE-LEW-10278-1] c15 N71-28582
- Fluid polydimethylsiloxane resin with low outgassing properties in cured state  
[NASA-CASE-GSC-11358-1] c06 N73-26100



**OUTPUT**

Nonlinear nonsingular feedback shift registers  
[NASA-CASE-NPO-13451-1] c33 N76-14373

**OVENS**

Oven for heat treating heat shields  
[NASA-CASE-XMS-04318] c15 N69-27871

**OVERVOLTAGE**

Spark gap type protective circuit for fast sensing and removal of overvoltage conditions  
[NASA-CASE-XAC-08981] c09 N69-39897  
Sensing circuit for instantaneous reaction to power overloads  
[NASA-CASE-GSC-10667-1] c10 N71-33129  
Overvoltage protection network  
[NASA-CASE-ARC-10197-1] c09 N74-17929

**OXIDATION**

Silicide coating process and composition for protection of refractory metals from oxidation  
[NASA-CASE-XLE-10910] c18 N71-29040  
Automated analysis of oxidative metabolites  
[NASA-CASE-ARC-10469-1] c25 N75-12086  
A process of forming catalytic surfaces for oxidation reactions  
[NASA-CASE-MSC-14831-1] c25 N76-23387  
Hydrogen rich gas generator  
[NASA-CASE-NPO-13464-2] c44 N76-29704

**OXIDATION RESISTANCE**

Nickel base alloy with resistance to oxidation at high temperatures and superior stress-rupture properties  
[NASA-CASE-XLE-02082] c17 N71-16026  
Method of protecting the surface of a substrate --- by applying aluminide coating  
[NASA-CASE-LEW-11696-1] c37 N75-13261  
Duplex aluminized coatings  
[NASA-CASE-LEW-11696-2] c26 N75-19408  
High temperature oxidation resistant cermet compositions --- for use in thermionic converters or diodes  
[NASA-CASE-NPO-13666-1] c27 N76-13293  
High temperature resistant cermet and ceramic compositions --- for use in thermionic converters or diodes  
[NASA-CASE-NPO-13690-1] c27 N76-13294

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Utilization of lithium p-lithiophenoxide to prepare star polymers  
[NASA-CASE-NPO-10998-1] c06 N73-32029

**OXIDIZERS**

Electrolytically regenerative hydrogen-oxygen fuel cells  
[NASA-CASE-XLE-04526] c03 N71-11052  
Fuel and oxidizer injection head for thrust chamber of reaction engine  
[NASA-CASE-NPO-10046] c28 N72-17843

**OXIMETRY**

Ear oximeter for monitoring blood oxygenation and pressure, pulse rate, and pressure pulse curve, using dc and ac amplifiers  
[NASA-CASE-XAC-05422] c04 N71-23185

**OXYGEN**

Analytical test apparatus and method for determining oxygen content in alkali liquid metal  
[NASA-CASE-XLE-01997] c06 N71-23527  
Heated tungsten filter for removing oxygen impurities from cesium  
[NASA-CASE-XNP-04262-2] c17 N71-26773  
Method for detecting oxygen in gas by thermoluminescence  
[NASA-CASE-LAR-10668-1] c06 N73-16106  
Method for obtaining oxygen from lunar or similar soil  
[NASA-CASE-MSC-12408-1] c13 N74-13011  
Nonflammable coating compositions --- for use in high oxygen environments  
[NASA-CASE-MFS-20486-2] c18 N74-17283

**OXYGEN CONSUMPTION**

Respiration analyzing method and apparatus for determining subjects oxygen consumption in aerospace environments  
[NASA-CASE-XPB-08403] c05 N71-11202

**OXYGEN FLUORIDES**

Utilization of oxygen difluoride for syntheses of fluoropolymers  
[NASA-CASE-NPO-12061-1] c27 N76-16228

**OXYGEN METABOLISM**

Metabolic analyzer --- for measuring metabolic rate and breathing dynamics of human beings

[NASA-CASE-MFS-21415-1] c05 N74-20728

**OXYGEN REGULATORS**

Lead-oxygen dc power supply system having a closed loop oxygen and water system  
[NASA-CASE-MFS-23059-1] c44 N76-27664

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[NASA-CASE-MSC-14757-1] c37 N76-13496  
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[NASA-CASE-MSC-14733-1] c54 N76-24900

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[NASA-CASE-XLE-10529] c14 N69-23191  
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[NASA-CASE-XLA-04980] c09 N69-27422  
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[NASA-CASE-XGS-07801] c09 N71-12513  
Silicon radiation detecting probe design for in vivo biomedical use  
[NASA-CASE-XMS-01177] c05 N71-19440  
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[NASA-CASE-XLE-04787] c03 N71-20492  
Water content in vapor deposition atmosphere for forming n-type and p-type junctions of zinc doped gallium arsenide  
[NASA-CASE-XNP-01961] c26 N71-29156  
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[NASA-CASE-XLA-04980-2] c14 N72-28438  
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[NASA-CASE-ERC-10339-1] c18 N73-30532

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[NASA-CASE-XLA-00137] c15 N70-33180  
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[NASA-CASE-XLA-00138] c31 N70-37981  
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[NASA-CASE-MFS-20855] c15 N73-27405

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## PANELS

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[NASA-CASE-XLA-00898] c02 N70-36804
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[NASA-CASE-XMS-00907] c02 N70-41630
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[NASA-CASE-XLE-01533] c11 N71-10777  
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[NASA-CASE-XGS-06628] c24 N71-16213
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[NASA-CASE-NPO-13112-1] c11 N74-26767  
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[NASA-CASE-XLE-00243] c14 N70-38602  
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[NASA-CASE-HQN-10740-1] c24 N74-19310
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[NASA-CASE-XMS-04201] c14 N71-22990
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Particle detector for measuring micrometeoroid velocity in space  
[NASA-CASE-XLA-00495] c14 N70-41332
- PARTICLE EMISSION**  
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[NASA-CASE-XGS-03230] c14 N71-23401  
Apparatus for detecting particle emission lower than noise level of multiplier tube  
[NASA-CASE-XLA-07813] c14 N72-17328
- PARTICLE ENERGY**  
Particle detector for indicating incidence and energy of minute space particles  
[NASA-CASE-XLA-00135] c14 N70-33322  
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[NASA-CASE-LAR-11434-1] c35 N76-22509
- PARTICLE MASS**  
Cosmic dust analyzer  
[NASA-CASE-MSC-13802-2] c35 N76-15431
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Moving particle composition analyzer  
[NASA-CASE-GSC-11889-1] c35 N76-16393

**PARTICLE PRODUCTION**

Production of I-123

[NASA-CASE-LEW-11390-3] c25 N76-29379

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Micropacked column for rapid chromatographic analysis using low gas flow rates

[NASA-CASE-KNP-04816] c06 N69-39936

Apparatus for producing hydrocarbon slurry containing small particles of magnesium for use as jet aircraft fuel

[NASA-CASE-XLE-00010] c15 N70-33382

Production of high strength refractory compounds and microconstituents into refractory metal matrix

[NASA-CASE-XLE-03940] c18 N71-26153

Frequency scanning particle size spectrometer

[NASA-CASE-NPO-13606-1] c35 N75-19627

Particle size spectrometer and refractometer

[NASA-CASE-NPO-13614-1] c35 N75-19628

Grain refinement control in TIG arc welding

[NASA-CASE-MSC-19095-1] c37 N75-19683

Forward-scatter polarimeter for determining the gaseous depolarization factor in the presence of polluting polydispersed particles

[NASA-CASE-NPO-13756-1] c35 N76-14434

**PARTICLE TRAJECTORIES**

Micrometeoroid velocity and trajectory analyzer

[NASA-CASE-GSC-11892-1] c35 N76-15433

**PARTICLES**

Development of device for separating, collecting, and viewing soil particles

[NASA-CASE-XNP-09770] c15 N71-20440

Development of apparatus for producing metal powder particles of controlled size

[NASA-CASE-XLE-06461-2] c17 N72-28535

**PARTICULATE SAMPLING**

Design and development of device to prevent clogging in hoppers containing particulate materials

[NASA-CASE-LAR-10961-1] c15 N73-12496

Development and operation of apparatus for sampling particulates in gases in upper atmosphere

[NASA-CASE-HQN-10037-1] c14 N73-27376

Fine particulate capture device

[NASA-CASE-LEW-11583-1] c15 N74-13199

Electrophoretic sample insertion --- device for uniformly distributing samples in flow path

[NASA-CASE-MFS-21395-1] c14 N74-26948

Sampler of gas borne particles

[NASA-CASE-NPO-13396-1] c35 N76-18407

**PASSAGEWAYS**

Space expandable tether device for use as passageway between two docked spacecraft

[NASA-CASE-XMS-10993] c15 N71-28936

**PASSIVE SATELLITES**

Erectable, inflatable, radio signal reflecting passive communication satellite

[NASA-CASE-XLA-00210] c30 N70-40309

Apparatus for measuring backscatter and transmission characteristics of sample segment of large spherical passive satellites

[NASA-CASE-XGS-02608] c07 N70-41678

Forming inflatable panels erectable in space for passive communication satellite

[NASA-CASE-XLA-03497] c15 N71-23052

**PATIENTS**

Stretcher with rigid head and neck support with capability of supporting immobilized person in vertical position for removal from vehicle hatch to exterior also useful as splint stretcher

[NASA-CASE-XMF-06589] c05 N71-23159

**PATTERN RECOGNITION**

Roughness detector for recording surface pattern of irregularities

[NASA-CASE-XLA-00203] c14 N70-34161

Auditory display for the blind

[NASA-CASE-HQN-10832-1] c14 N74-21014

**PAYLOADS**

Plastic foam generator for space vehicle instrument payload package flotation in water landing

[NASA-CASE-XLA-00838] c03 N70-36778

Stage separation system for spinning vehicles and payloads

[NASA-CASE-XLA-02132] c31 N71-10582

Payload/spent rocket engine case separation system

[NASA-CASE-XLA-05369] c31 N71-15687

High velocity guidance and spin stabilization gyro controlled jet reaction system for launch vehicle payloads

[NASA-CASE-XLA-01339] c31 N71-15692

Payload soft landing system using stowable gas bag

[NASA-CASE-XLA-09881] c31 N71-16085

Zero gravity apparatus utilizing pneumatic decelerating means to create payload subjected to zero gravity conditions by dropping its height

[NASA-CASE-XMF-06515] c14 N71-23227

**PCM TELEMETRY**

Variable time constant, wide frequency range smoothing network for noise removal from pulse chains

[NASA-CASE-XGS-01983] c10 N70-41964

Data acquisition and processing system with buffer storage and timing device for magnetic tape recording of PCM data and timing information

[NASA-CASE-NPO-12107] c08 N71-27255

High speed direct binary to binary coded decimal converter for use in PCM telemetry systems

[NASA-CASE-KSC-10326] c08 N72-21197

**PELLETS**

Supporting structure for simultaneous exposure of pellets to X rays

[NASA-CASE-XNP-06031] c15 N71-15606

**PELTIER EFFECTS**

Use of silicon controlled rectifier shorting circuit to protect thermoelectric generator source from thermal destruction

[NASA-CASE-XGS-04808] c03 N69-25146

**PENETRANTS**

Dye penetrant and technique for nondestructive tests of solid surfaces contacted by liquid oxygen

[NASA-CASE-XMF-02221] c18 N71-27170

**PENETRATION**

Method and device for detection of surface discontinuities or defects

[NASA-CASE-MSC-14187-1] c14 N74-32879

**PENETROMETERS**

Development and characteristics of penetrometer for measuring physical properties of lunar surface

[NASA-CASE-XLA-00934] c14 N71-22765

Portable penetrometer for analyzing soil characteristics

[NASA-CASE-MFS-20774] c14 N73-19420

Auger-type soil penetrometer for burrowing into soil formations

[NASA-CASE-XNP-05530] c14 N73-32321

**PERCEPTION**

Measuring method for cutaneous perception using instrument with elongated tubular housing

[NASA-CASE-MSC-13609-1] c05 N72-25122

**PERFLUORO COMPOUNDS**

Chemical synthesis of hydroxy terminated perfluoro ethers as intermediates for highly fluorinated polyurethane resins

[NASA-CASE-NPO-10768] c06 N71-27254

Perfluoro polyether acyl fluorides

[NASA-CASE-NPO-10765] c06 N72-20121

Reaction of polyperfluoropolyenes with fluorine to produce saturated polymer chain or create reactive sites on chain

[NASA-CASE-NPO-10862] c06 N72-22107

Silphenylenesiloxane polymer with in-chain perfluoroalkyl groups

[NASA-CASE-MFS-20979] c06 N72-25151

Polymerization of perfluorobutadiene

[NASA-CASE-NPO-10863-2] c06 N72-25152

Formation of polyurethane resins from hydroxy terminated perfluoro ethers

[NASA-CASE-NPO-10768-2] c06 N72-27144

Process for preparing disilanolols with in-chain perfluoroalkyl groups

[NASA-CASE-MFS-20979-2] c06 N73-32030

Perfluoro alkylene dioxy-bis-(4-phthalic anhydrides and oxy-bis-(perfluoroalkyleneoxyphthalic anhydrides

[NASA-CASE-MFS-22356-1] c23 N75-30256

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- coating on ion accelerator grid  
[NASA-CASE-LEW-10278-1] c15 N71-28582
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- Method of fabricating an article with cavities  
--- with thin bottom walls  
[NASA-CASE-LAR-10318-1] c14 N74-18089
- PERFORMANCE**
- Thermocouples of tantalum and rhenium alloys for  
more stable vacuum-high temperature performance  
[NASA-CASE-LEW-12050-1] c35 N76-13454
- Thermocouples of molybdenum and iridium alloys  
for more stable vacuum-high temperature  
performance  
[NASA-CASE-LEW-12174-1] c35 N76-19407
- PERFORMANCE PREDICTION**
- Failure detection and control means for improved  
drift performance of a gimbaled platform system  
[NASA-CASE-MPS-23551-1] c04 N76-26175
- PERFORMANCE TESTS**
- Flexible, frangible electrochemical cell and  
package for operation in low temperature  
environment  
[NASA-CASE-XGS-10010] c03 N72-15986
- Test method and equipment for identifying faulty  
cells or connections in solar cell assemblies  
[NASA-CASE-NPO-10401] c03 N72-20033
- Development of apparatus for detonating  
explosive devices in order to determine forces  
generated and detonation propagation rate  
[NASA-CASE-LAR-10800-1] c33 N72-27959
- PERMEABILITY**
- Water insoluble, cationic permselective membrane  
[NASA-CASE-NPO-11091] c18 N72-22567
- PEROXIDES**
- Low pressure perfluorobutadiene polymerization  
with peroxide catalysts  
[NASA-CASE-NPO-10447] c06 N70-11252
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- Manufacturing process for making perspiration  
resistant-stress resistant biopotential  
electrode  
[NASA-CASE-MSC-90153-2] c05 N72-25120
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- Absorbing gas reactivity control system for  
minimizing power distribution and perturbation  
in nuclear reactors  
[NASA-CASE-XLE-04599] c22 N72-20597
- PERTURBATION THEORY**
- Dual wavelength scanning Doppler velocimeter ---  
without perturbation of flow fields  
[NASA-CASE-ARC-10637-1] c35 N75-16783
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- Apparatus for estimating amplitude and sign of  
phase difference or time lag between two signals  
[NASA-CASE-NPO-11203] c10 N72-20224
- Coherent receiver employing nonlinear coherence  
detection for carrier tracking  
[NASA-CASE-NPO-11921-1] c07 N74-30523
- PHASE CONTROL**
- System designed to reduce time required for  
obtaining synchronization in data  
communication with spacecraft utilizing  
pseudonoise codes  
[NASA-CASE-NPO-10214] c10 N71-26577
- Wideband voltage controlled oscillator with high  
phase stability  
[NASA-CASE-XLA-03893] c10 N71-27271
- Voltage controlled oscillator circuit for  
two-phase induction motor control  
[NASA-CASE-MPS-21465-1] c10 N73-32145
- System for generating timing and control signals  
[NASA-CASE-NPO-13125-1] c33 N75-19519
- Three phase full wave dc motor decoder  
[NASA-CASE-GSC-11824-1] c33 N75-27254
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- Development of phase demodulation system with  
two phase locked loops  
[NASA-CASE-INP-00777] c10 N71-19469
- PHASE DETECTORS**
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signal  
[NASA-CASE-XMP-00701] c09 N70-40272
- Bipolar phase detector and corrector for split  
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[NASA-CASE-XGS-01590] c07 N71-12392
- High speed phase detector design indicating  
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[NASA-CASE-INP-01306-2] c09 N71-24596
- Phase protection system for ac power lines  
[NASA-CASE-MSC-17832-1] c10 N74-14956
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--- voltage controlled phase shifter  
[NASA-CASE-MPS-21671-1] c10 N74-22885
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[NASA-CASE-GSC-11744-1] c33 N75-26243
- Impact position detector for outer space particles  
[NASA-CASE-GSC-11829-1] c35 N75-27331
- Phase substitution of spare converter for a  
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converters  
[NASA-CASE-NPO-13812-1] c33 N76-31413
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[NASA-CASE-NPO-13138-1] c09 N74-17927
- PHASE LOCK DEMODULATORS**
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- Linear phase demodulator  
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[NASA-CASE-XGS-04994] c09 N69-21543
- Phase locked loop with sideband rejecting  
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[NASA-CASE-XNP-02723] c07 N70-41680
- Development of automatic frequency  
discriminators and control for phase lock loop  
providing frequency preset capabilities  
[NASA-CASE-XMP-08665] c10 N71-19467
- Development and characteristics of burst  
synchronization detection system  
[NASA-CASE-YMS-05605-1] c10 N71-19468
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[NASA-CASE-XNP-00777] c10 N71-19469
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[NASA-CASE-XGS-01222] c10 N71-20841
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[NASA-CASE-XNP-05382] c10 N71-23544
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[NASA-CASE-KSC-10002] c10 N71-25865
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[NASA-CASE-NPO-11282] c10 N73-16205
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[NASA-CASE-NPO-11941-1] c10 N73-27171
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[NASA-CASE-NPO-11593-1] c07 N73-28012
- Automatic carrier acquisition system for phase  
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[NASA-CASE-NPO-11628-1] c07 N73-30113
- Phase-locked servo system --- for synchronizing  
the rotation of slip ring assembly  
[NASA-CASE-MPS-22073-1] c33 N75-13139
- Low speed phaselock speed control system --- for  
brushless dc motor  
[NASA-CASE-GSC-11127-1] c09 N75-24758
- Digital phase-locked loop  
[NASA-CASE-GSC-11623-1] c33 N75-25040
- Telemetry synchronizer  
[NASA-CASE-GSC-11868-1] c17 N76-22245
- PHASE MODULATION**
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quadrature modulation and complementary  
demodulation  
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- Adaptive notch filter, using modulation  
techniques for reversed phase noise signal  
[NASA-CASE-XMP-01892] c10 N71-22986
- Phase locked phase modulation system with  
voltage controlled oscillator for final phase  
linearity  
[NASA-CASE-XNP-05382] c10 N71-23544

- Scanning signal phase and amplitude electronic control device with hybrid T waveguide junction [NASA-CASE-NPO-10302] c10 N71-26142
- Phase modulator with tuned variable length electrical lines including coupling and varactor diode circuits [NASA-CASE-MSC-13201-1] c07 N71-28429
- Multicarrier communications system for transmitting modulated signals from single transmitter [NASA-CASE-NPO-11548] c07 N73-26118
- Decision feedback loop for tracking a polyphase modulated carrier [NASA-CASE-NPO-13103-1] c07 N74-20811
- Modulator for tone and binary signals --- phase of modulation of tone and binary signals on carrier waves in communication systems [NASA-CASE-GSC-11743-1] c32 N75-24981
- Phase modulator [NASA-CASE-LAR-11607-1] c32 N76-10356
- PHASE SHIFT**
- Bipolar phase detector and corrector for split phase PCM data signals [NASA-CASE-XGS-01590] c07 N71-12392
- Left and right hand circular electromagnetic polarization excitation by phase shifter and hybrid networks [NASA-CASE-GSC-10021-1] c09 N71-24595
- Pulse code modulated data from frequency multiplex communications by digital phase shift or carrier [NASA-CASE-NPO-11338] c08 N72-25208
- PHASE SHIFT CIRCUITS**
- Design of gyrator circuit using operational amplifiers to replace ungrounded inductors [NASA-CASE-XAC-10608-1] c09 N71-12517
- Phase shifting circuit for selecting phase of input signal [NASA-CASE-ARC-10269-1] c10 N72-16172
- Continuously variable, voltage-controlled phase shifter [NASA-CASE-NPO-11129] c09 N72-33204
- Voltage controlled oscillator circuit for two-phase induction motor control [NASA-CASE-MFS-21465-1] c10 N73-32145
- Low distortion automatic phase control circuit --- voltage controlled phase shifter [NASA-CASE-MFS-21671-1] c10 N74-22885
- PHASE SHIFT KEYING**
- Decision feedback loop for tracking a polyphase modulated carrier [NASA-CASE-NPO-13103-1] c07 N74-20811
- Differential phase shift keyed communication system [NASA-CASE-MSC-14065-1] c07 N74-26654
- Differential phase shift keyed signal resolver [NASA-CASE-MSC-14066-1] c10 N74-27705
- Unbalanced quadriphase demodulator [NASA-CASE-MSC-14840-1] c32 N76-26367
- PHASE SWITCHING INTERFEROMETERS**
- Interferometric tuning acquisition and tracking radar antenna system [NASA-CASE-XMS-09610] c07 N71-24625
- PHASE TRANSFORMATIONS**
- Magnetohydrodynamic generator for mixing nonconductive gas and liquid metal mist to form slugs [NASA-CASE-XLE-02083] c03 N69-39983
- Method and feed system for separating and orienting liquid and vapor phases of liquid propellants in zero gravity environment [NASA-CASE-XLE-01182] c27 N71-15635
- PHASE VELOCITY**
- Ultrasonic calibration device --- for producing changes in acoustic attenuation and phase velocity [NASA-CASE-LAR-11435-1] c35 N76-15432
- PHASED ARRAYS**
- Development of phase control coupling for use with phased array antenna [NASA-CASE-ERC-10285] c10 N73-16206
- PHASED LOCKED SYSTEMS**
- Bit synchronization system using digital data transition tracking phased locked loop [NASA-CASE-NPO-10844] c07 N72-20140
- Digital second-order phase-locked loop [NASA-CASE-NPO-11905-1] c08 N74-12887
- PHENOLIC RESINS**
- Bonding method in the manufacture of continuous regression rate sensor devices [NASA-CASE-LAR-10337-1] c24 N75-30260
- PHENOLS**
- Utilization of lithium p-lithiophenoxide to prepare star polymers [NASA-CASE-NPO-10998-1] c06 N73-32029
- PHONOCARDIOGRAPHY**
- Phonocardiogram simulator producing electrical voltage waves to control amplitude and duration between simulated sounds [NASA-CASE-IKS-10804] c05 N71-24606
- Vibrophonocardiograph comprising low weight and small volume piezoelectric microphone with amplifier having high input impedance for high sensitivity and low frequency response [NASA-CASE-XPR-07172] c05 N71-27234
- PHOSPHATES**
- Low concentration alkaline solution treatment of aluminum with metal phosphate surface coatings to improve chemical bonding and reduce coating weight [NASA-CASE-XLA-01995] c18 N71-23047
- PHOSPHINES**
- Heat resistant polymers of oxidized styrylphosphine [NASA-CASE-MSC-14903-1] c27 N76-28425
- PHOSPHONITRILES**
- Chemical synthesis of thermally stable organometallic polymers with divalent metal ion and tetraphenylphosphonitrilic units [NASA-CASE-HQN-10364] c06 N71-27363
- PHOTOCATHODES**
- Spectrometer using photoelectric effect to obtain spectral data [NASA-CASE-XNP-04161] c14 N71-15599
- III-V photocathode with nitrogen doping for increased quantum efficiency [NASA-CASE-NPO-12134-1] c33 N76-31409
- PHOTOCHEMICAL REACTIONS**
- Photon excited catalysis [NASA-CASE-NPO-13566-1] c25 N76-17216
- Extraction and separation of a preferentially photo-dissociated molecular isotope into positive and negative ions by means of an electric field [NASA-CASE-LEW-12465-1] c72 N76-27967
- PHOTOCONDUCTIVITY**
- Photofabrication techniques for selective removal of conductive metals oxide coatings from nonconductive substrates [NASA-CASE-ERC-10108] c06 N72-21094
- PHOTOCONDUCTORS**
- Electronic divider and multiplier for analog electric signals [NASA-CASE-IFR-05637] c09 N71-19480
- PHOTOELECTRIC CELLS**
- Sun tracker with rotatable plane-parallel plate and two photocells [NASA-CASE-IGS-01159] c21 N71-10678
- Method of and device for determining the characteristics and flux distribution of micrometeorites --- scanning puncture holes in sheet material with photoelectric cell [NASA-CASE-NPO-12127-1] c14 N74-13130
- PHOTOELECTRIC EFFECT**
- Spectrometer using photoelectric effect to obtain spectral data [NASA-CASE-XNP-04161] c14 N71-15599
- PHOTOELECTRIC MATERIALS**
- Light radiation direction indicator with baffle of two parallel grids [NASA-CASE-XNP-03930] c14 N69-24331
- Use of thin film light detector [NASA-CASE-NPO-11432-2] c14 N74-15090
- PHOTOELECTRONS**
- Photoelectron spectrometer with means for stabilizing sample surface potential [NASA-CASE-NPO-13772-1] c35 N76-26450
- PHOTOGRAPHIC EQUIPMENT**
- Camera protecting device for use in photographing rocket engine nozzles or other engine components [NASA-CASE-NPO-10174] c14 N71-18465
- PHOTOGRAPHIC FILM**
- Longitudinal film gate and lock mechanism for securing film in motion picture cameras under vibration and high acceleration loads [NASA-CASE-LAR-10686] c14 N71-28935

- Photographic film restoration system using  
Fourier transformation lenses and spatial filter  
[NASA-CASE-MSC-12448-1] c14 N72-20394
- Mechanical exposure interlock device for  
preventing film overexposure in oscilloscope  
camera  
[NASA-CASE-LAR-10319-1] c14 N73-32322
- Optical noise suppression device and method ---  
laser light exposing film  
[NASA-CASE-MSC-12640-1] c74 N76-31998
- PHOTOGRAPHIC MEASUREMENT**
- Photographic method for measuring viscoelastic  
strain in solid propellants and other materials  
[NASA-CASE-XNP-01153] c32 N71-17645
- Impact measuring technique for determining size  
of hypervelocity projectiles  
[NASA-CASE-LAR-10913] c14 N72-16282
- TV fatigue crack monitoring system  
[NASA-CASE-LAR-11490-1] c35 N76-28530
- PHOTOGRAPHIC PLATES**
- Method of treating the surface of a glass member  
[NASA-CASE-GSC-12110-1] c27 N76-23438
- PHOTOGRAPHIC PROCESSING**
- An optical process for producing classification  
maps from multispectral data  
[NASA-CASE-MSC-14472-1] c13 N74-32780
- Method and apparatus for controlling the  
contrast of a photographic transparency  
[NASA-CASE-GSC-11989-1] c35 N76-16395
- Method of post-process intensification of images  
on photographic films and plates  
[NASA-CASE-MPS-23461-1] c35 N76-26449
- PHOTOGRAPHIC PROCESSING EQUIPMENT**
- Drying chamber for photographic sheet material  
[NASA-CASE-GSC-11074-1] c14 N73-28489
- PHOTOGRAPHIC RECORDING**
- Photographing surface flow patterns on wind  
tunnel test models  
[NASA-CASE-XLA-01353] c14 N70-41366
- Development of focused image holography with  
extended sources  
[NASA-CASE-ERC-10019] c16 N71-15551
- Recording and reconstructing focused image  
holograms  
[NASA-CASE-ERC-10017] c16 N71-15567
- Method and means for recording and  
reconstructing holograms without use of  
reference beam  
[NASA-CASE-ERC-10020] c16 N71-26154
- Multiple image storing system for obtaining  
holographic record on film of high speed  
projectile  
[NASA-CASE-MPS-20596] c14 N72-17324
- Phototropic composition of matter with  
sensitivity to ultraviolet light and usable  
for producing positive photographic images  
[NASA-CASE-XGS-03736] c14 N72-22443
- Method for determining thermo-physical  
properties of specimens --- photographic  
recording of changes in thin film phase-change  
temperature indicating material in wind tunnel  
[NASA-CASE-LAR-11053-1] c33 N74-18551
- PHOTOIONIZATION**
- Multichannel photoionization chamber for  
measuring absorption, photoionization yield,  
and coefficients of gases  
[NASA-CASE-ERC-10044-1] c14 N71-27090
- PHOTOLYSIS**
- Solar photolysis of water  
[NASA-CASE-NPO-13675-1] c44 N76-18680
- PHOTOMETERS**
- Michelson interferometer with photodetector for  
optical direction sensing  
[NASA-CASE-NPO-10320] c14 N71-17655
- Indicator device for monitoring charge of wet  
cell battery, using semiconductor light  
emitter and photodetector  
[NASA-CASE-NPO-10194] c03 N71-20407
- Electro-optical detector for determining  
position of light source  
[NASA-CASE-XNP-01059] c23 N71-21821
- Photometric flow meter with comparator reference  
means  
[NASA-CASE-XGS-01331] c14 N71-22996
- Development of radiant energy sensor to detect  
the radiant energy wavelength bands from  
portions of radiating body  
[NASA-CASE-ERC-10174] c14 N72-25409
- Characteristics of infrared photodetectors  
manufactured from semiconductor material  
irradiated by electron beam  
[NASA-CASE-LAR-10728-1] c14 N73-12445
- Chromato-fluorographic drug detector --- device  
for detecting and recording fluorescent  
properties of materials  
[NASA-CASE-ARC-10633-1] c14 N74-26947
- A 2 degree/90 degree laboratory scattering  
photometer  
[NASA-CASE-GSC-12088-1] c35 N76-17369
- PHOTOMICROGRAPHY**
- Stereo photomicrography system with stereo  
microscope for viewing specimen at various  
magnifications  
[NASA-CASE-LAR-10176-1] c14 N72-20380
- Device for displaying and recording angled views  
of samples to be viewed by microscope  
[NASA-CASE-GSC-11690-1] c14 N73-28499
- Hand-held, lightweight, portable photomicroscope  
[NASA-CASE-ARC-10468-1] c14 N73-33361
- PHOTOMULTIPLIER TUBES**
- Photomultiplier detector of Canopus for  
spacecraft attitude control  
[NASA-CASE-XNP-03914] c21 N71-10771
- Electronic divider and multiplier for analog  
electric signals  
[NASA-CASE-XPR-05637] c09 N71-19480
- Circuit design for determining amount of  
photomultiplier tube light detection utilizing  
variable current source and dark current  
signals of opposite polarity  
[NASA-CASE-XMS-03478] c14 N71-21040
- Apparatus for detecting particle emission lower  
than noise level of multiplier tube  
[NASA-CASE-XLA-07813] c14 N72-17328
- Scan oscilloscope for mapping surface  
sensitivity of photomultiplier tube  
[NASA-CASE-LAR-10320-1] c09 N72-23172
- Design and development of light sensing device  
for controlling orientation of object relative  
to sun or other light source  
[NASA-CASE-NPO-11201] c14 N72-27409
- Photomultiplier circuit including means for  
rapidly reducing the sensitivity thereof ---  
and protection from radiation damage  
[NASA-CASE-ARC-10593-1] c09 N74-27682
- PHOTOSENSITIVITY**
- Photosensitive light source device for detecting  
unmanned spacecraft deviation from reference  
attitude  
[NASA-CASE-XNP-00438] c21 N70-35089
- Light sensitive control system for automatically  
opening and closing dome of solar optical  
telescope  
[NASA-CASE-MSC-10966] c14 N71-19568
- Scan oscilloscope for mapping surface  
sensitivity of photomultiplier tube  
[NASA-CASE-LAR-10320-1] c09 N72-23172
- Holography utilizing surface plasmon resonances  
[NASA-CASE-MPS-22040-1] c14 N74-26946
- Apparatus for calibrating an image dissector tube  
[NASA-CASE-MPS-22208-1] c33 N75-26244
- PHOTOTRANSISTORS**
- Phototransistor imaging system with mosaic of  
phototransistors on semiconductor substrate  
[NASA-CASE-MPS-20809] c23 N73-13660
- Phototransistor with base collector junction  
diode for integration into photo sensor arrays  
[NASA-CASE-MPS-20407] c09 N73-19235
- PHOTOTROPISM**
- Phototropic composition of matter with  
sensitivity to ultraviolet light and usable  
for producing positive photographic images  
[NASA-CASE-XGS-03736] c14 N72-22443
- PHOTOVISCOELASTICITY**
- Photographic method for measuring viscoelastic  
strain in solid propellants and other materials  
[NASA-CASE-XNP-01153] c32 N71-17645
- PHOTOVOLTAIC CELLS**
- Sensor consisting of photocells mounted on  
pyramidal base for improved pointing  
accuracy of planetary trackers  
[NASA-CASE-XNP-04180] c07 N69-39736
- Light sensitive digital aspect sensor for  
attitude control of earth satellites or space  
probes  
[NASA-CASE-XGS-00359] c14 N70-34158

- Method of producing output voltage from photovoltaic cell using poly-N-vinyl carbazole complexed with iodine  
[NASA-CASE-NPO-10373] c03 N71-18698
- Use of thin film light detector  
[NASA-CASE-NPO-11432-2] c14 N74-15090
- Photovoltaic cell array  
[NASA-CASE-MPS-22458-1] c44 N75-22900
- PHOTOVOLTAIC EFFECT**
- Semiconductor in resonant cavity for improving signal to noise ratio of communication receiver  
[NASA-CASE-MSC-12259-1] c07 N70-12616
- Use of thin film light detector  
[NASA-CASE-NPO-11432-2] c14 N74-15090
- PHYSICAL EXERCISE**
- Development of restraint system for securing personnel to ergometer while exercising under weightless conditions  
[NASA-CASE-MPS-21046-1] c14 N73-27377
- Tilting table for testing human body in variety of positions while exercising on ergometer or other biomedical devices  
[NASA-CASE-MPS-21010-1] c05 N73-30078
- Manual actuator --- for spacecraft exercising machines  
[NASA-CASE-MPS-21481-1] c15 N74-18127
- Therapeutic hand exerciser  
[NASA-CASE-LAR-11667-1] c52 N76-19785
- Tread drum for animals  
[NASA-CASE-ARC-10917-1] c37 N76-20485
- PHYSICAL PROPERTIES**
- Chemical and physical properties of synthetic polyurethane polymer prepared by reacting hydroxy carbonate with organic diisocyanate  
[NASA-CASE-MPS-10512] c06 N73-30099
- PHYSIOLOGICAL EFFECTS**
- Restraint torso for increased mobility and reduced physiological effects while wearing pressurized suits  
[NASA-CASE-MSC-12397-1] c05 N72-25119
- PHYSIOLOGICAL TESTS**
- Vibrophonocardiograph comprising low weight and small volume piezoelectric microphone with amplifier having high input impedance for high sensitivity and low frequency response  
[NASA-CASE-XPR-07172] c05 N71-27234
- Medical subject monitoring systems --- multichannel monitoring systems  
[NASA-CASE-MSC-14180-1] c52 N76-14757
- PHYSIOLOGY**
- Piezoelectric transducer for monitoring sound waves of physiological origin  
[NASA-CASE-XMS-05365] c14 N71-22993
- Method of detecting and counting bacteria  
[NASA-CASE-GSC-11917-2] c51 N76-29891
- PIERCING**
- Pressurized cell micrometeoroid detector  
[NASA-CASE-XLA-00936] c14 N71-14996
- PIEZOELECTRIC CRYSTALS**
- Miniature solid state, direction sensitive, stress transducer design with bonded semiconductive piezoresistive element for sensing residual stresses  
[NASA-CASE-XNP-02983] c14 N71-21091
- Ultra-stable oscillator with complementary transistors  
[NASA-CASE-GSC-11513-1] c09 N74-20862
- PIEZOELECTRIC TRANSDUCERS**
- Piezoelectric transducer for detecting and measuring micrometeoroids  
[NASA-CASE-XAC-01101] c14 N70-41957
- Describing crystal oscillator instrument for detecting condensable gas contaminants in vacuum apparatus  
[NASA-CASE-NPO-10144] c14 N71-17701
- Piezoelectric transducer for monitoring sound waves of physiological origin  
[NASA-CASE-XMS-05365] c14 N71-22993
- Miniature piezoelectric semiconductor transducer with in situ stress coupling  
[NASA-CASE-ERC-10087-2] c14 N72-31446
- PIEZOELECTRICITY**
- Piezoelectric means for missile stage separation indication and stage initiation  
[NASA-CASE-XLA-00791] c03 N70-39930
- Piezoelectric pump for supplying fluid at high frequencies to gyroscope fluid suspension system  
[NASA-CASE-XNP-05429] c26 N71-21824
- Miniature electromechanical junction transducer operating on piezoelectric effect and utilizing epoxy for stress coupling component  
[NASA-CASE-ERC-10087] c14 N71-27334
- PIEZORESISTIVE TRANSDUCERS**
- Miniature solid state, direction sensitive, stress transducer design with bonded semiconductive piezoresistive element for sensing residual stresses  
[NASA-CASE-XNP-02983] c14 N71-21091
- Solid state force measuring electromechanical transducers made of piezoresistive materials  
[NASA-CASE-ERC-10088] c26 N71-25490
- PIGMENTS**
- Binder stabilized zinc oxide pigmented coating for spacecraft thermal control  
[NASA-CASE-XNP-07770-2] c18 N71-26772
- Method of preparing zinc orthotitanate pigment  
[NASA-CASE-MPS-23345-1] c24 N76-26285
- PILOT TRAINING**
- Controlled visibility device for simulating poor visibility conditions in training pilots in instrument landing and flight procedures  
[NASA-CASE-XPR-04147] c11 N71-10748
- Kinesthetic control simulator --- for pilot training  
[NASA-CASE-LAR-10276-1] c09 N75-15662
- PILOTS (PERSONNEL)**
- Pilot warning indicator system of intruder aircraft  
[NASA-CASE-ERC-10226-1] c14 N73-16483
- PINS**
- Fatigue resistant shear pin with hollow shaft and two plugs  
[NASA-CASE-XLA-09122] c15 N69-27505
- Blade vibration damping pins for turbomachinery  
[NASA-CASE-XLE-00155] c28 N71-29154
- Design of quick release locking pin for joining two or more load-carrying structural members  
[NASA-CASE-MPS-18495] c15 N72-11385
- PINTLES**
- Describing metal valve pintle with encapsulated elastomeric body  
[NASA-CASE-MSC-12116-1] c15 N71-17648
- PIPELINES**
- Flexible bellows joint shielding sleeve for propellant transfer pipelines  
[NASA-CASE-XNP-01855] c15 N71-28937
- Insulation for piping  
[NASA-CASE-MSC-19523-1] c31 N76-16245
- PIPES (TUBES)**
- Capacitance measuring device for determining flare accuracy on tapered tubes  
[NASA-CASE-XKS-03495] c14 N69-39785
- Low thermal loss piping arrangement for moving cryogenic media through double chamber structure  
[NASA-CASE-XNP-08882] c15 N69-39935
- Foldable conduit capable of springing back as self erecting structural member  
[NASA-CASE-XLE-00620] c32 N70-41579
- Mounting fixture for supporting thermobulb in pipeline  
[NASA-CASE-NPO-10158] c33 N71-16356
- Method and apparatus for shaping and joining large diameter metal tubes using magnetomotive forces  
[NASA-CASE-XNP-05114] c15 N71-17650
- Sealed separable connection for thin wall metal tube  
[NASA-CASE-NPO-10064] c15 N71-17693
- Electrical switching device comprising conductive liquid confined within square loop of deformable nonconductive tubing also used for leveling  
[NASA-CASE-NPO-10037] c09 N71-19610
- Hand tool for forming dimples and nipples on end portion of tubes  
[NASA-CASE-XMS-06876] c15 N71-21536
- Nonconductive tube as feed system for plasma thruster  
[NASA-CASE-XLE-02902] c25 N71-21694
- Apparatus and method for spin forming tubular elbows with high strength, uniform thickness, and close tolerances  
[NASA-CASE-XNP-01083] c15 N71-22723
- Description of portable milling tool for milling tube or pipe ends to desired shape and thickness  
[NASA-CASE-XNP-03511] c15 N71-22799

- Gage for measuring internal angle of flare on end of tube  
[NASA-CASE-XMP-04415] c14 N71-24693
- Method and apparatus for portable high precision magnetomotive bulging, constricting, and joining of large diameter metal tubes  
[NASA-CASE-XMP-05114-3] c15 N71-24865
- Portable cutting machine for piping weld preparation  
[NASA-CASE-XKS-07953] c15 N71-26134
- Method and apparatus for precision sizing and joining of large diameter tubes by bulging or constricting overlapping ends  
[NASA-CASE-XMP-05114-2] c15 N71-26148
- Collapsible antenna boom and coaxial transmission line having inflatable inner tube  
[NASA-CASE-MPS-20068] c07 N71-27191
- Process for developing filament reinforced plastic tubes used in research and development programs  
[NASA-CASE-LAR-10203-1] c15 N72-16330
- Torsional disconnect device for releasably coupling distal ends of fluid conduits  
[NASA-CASE-NPO-10704] c15 N72-20445
- Open type urine receptacle with tubular housing  
[NASA-CASE-MSC-12324-1] c05 N72-22093
- Measuring method for cutaneous perception using instrument with elongated tubular housing  
[NASA-CASE-MSC-13609-1] c05 N72-25122
- Low mass truss structure with elongated thin-walled tubular segments  
[NASA-CASE-LAR-10546-1] c11 N72-25287
- Honeycomb panels of minimal surface, periodic tubule layers  
[NASA-CASE-ERC-10364] c18 N72-25540
- Honeycomb core structures of minimum surface tubule sections  
[NASA-CASE-ERC-10363] c18 N72-25541
- U shaped heated tube for distillation and purification of liquid metals  
[NASA-CASE-XMP-08124-2] c06 N73-13129
- Cable guide and restraint device for reefing tubes in uniform manner  
[NASA-CASE-LAR-10129-1] c15 N73-25512
- Twisted wire or tube superconductor for filament windings  
[NASA-CASE-LEW-11015] c26 N73-32571
- Open tube guideway for high speed air cushioned vehicles  
[NASA-CASE-LAR-10256-1] c11 N74-34672
- Method for fabricating a mass spectrometer inlet leak  
[NASA-CASE-GSC-12077-1] c35 N76-13465
- PISTON ENGINES**  
Stirling cycle engine and refrigeration systems  
[NASA-CASE-NPO-13613-1] c37 N76-29590
- PISTONS**  
Automatically reciprocating, high pressure pump for use in spacecraft cryogenic propellants  
[NASA-CASE-XNP-04731] c15 N71-24042
- Pumping and metering dual piston system and monitor for reaction chamber constituents  
[NASA-CASE-GSC-10218-1] c15 N72-21465
- Collapsible piston for hypervelocity gun  
[NASA-CASE-HSC-13789-1] c11 N73-32152
- Airflow control system for supersonic inlets  
[NASA-CASE-LEW-11188-1] c02 N74-20646
- PITCH**  
Strapped down gyroscope aligned with sun and star tracker optical axis calibrating roll, yaw and pitch values  
[NASA-CASE-ARC-10716-1] c31 N73-32784
- PIVOTS**  
Apparatus for measuring load on cable under static or dynamic conditions comprising pulleys pivoting structure against restraint of tension strap  
[NASA-CASE-XMS-04545] c15 N71-22878
- PLANAR STRUCTURES**  
Window defect planar mapping technique  
[NASA-CASE-HSC-19442-1] c74 N75-22119
- PLANE WAVES**  
Characteristics of microwave antenna with conical reflectors to generate plane wave front  
[NASA-CASE-NPO-11661] c07 N73-14130
- PLANETARY ATMOSPHERES**  
Planetary atmospheric investigation using split trajectory dual flyby mode  
[NASA-CASE-XAC-08494] c30 N71-15990
- Wind tunnel method for simulating flow fields around blunt vehicles entering planetary atmospheres without involving high temperatures  
[NASA-CASE-LAR-11138] c12 N71-20436
- Ablation sensor for measuring surface ablation rate of material on vehicles entering earths atmosphere on entry into planetary atmospheres  
[NASA-CASE-XLA-01791] c14 N71-22991
- Annular arc accelerator shock tube  
[NASA-CASE-NPO-13528-1] c09 N75-11997
- PLANETARY GRAVITATION**  
Lunar and planetary gravity simulator to test vehicular response to landing  
[NASA-CASE-XLA-00493] c11 N70-34786
- Table structure and rotating magnet system simulating gravitational forces on spacecraft and displaying trajectories between Earth, Venus, and Mercury  
[NASA-CASE-XNP-00708] c14 N70-35394
- PLANETARY LANDING**  
Multiple parachute system for landing control of Apollo type spacecraft  
[NASA-CASE-XLA-00898] c02 N70-36804
- Payload soft landing system using stowable gas bag  
[NASA-CASE-XLA-09881] c31 N71-16085
- PLANETARY ORBITS**  
Self-erectable space structures of flexible foam for application in planetary orbits  
[NASA-CASE-XLA-00686] c31 N70-34135
- Manned space station collapsible for launching and self-erectable in orbit  
[NASA-CASE-XLA-00678] c31 N70-34296
- PLANETARY RADIATION**  
Attitude sensor with scanning mirrors for detecting orientation of space vehicle with respect to planet  
[NASA-CASE-XLA-00793] c21 N71-22880
- PLANETARY SURFACES**  
Spacecraft transponder and ground station radar system for mapping planetary surfaces  
[NASA-CASE-NPO-11001] c07 N72-21118
- PLANTS (BOTANY)**  
Rotary plant growth accelerating apparatus --- weightlessness  
[NASA-CASE-ARC-10722-1] c51 N75-25503
- PLASMA ACCELERATION**  
Increasing available power per unit area in ion rocket engine by increasing beam density  
[NASA-CASE-XLE-00519] c28 N70-41576
- Coaxial, high density, hypervelocity plasma generator and accelerator using electrodes  
[NASA-CASE-MPS-20589] c25 N72-32688
- PLASMA ACCELERATORS**  
Crossed-field plasma accelerator for laboratory simulation of atmospheric reentry conditions  
[NASA-CASE-XLA-00675] c25 N70-33267
- Continuous operation, single phased, induction plasma accelerator producing supersonic speeds  
[NASA-CASE-XLA-01354] c25 N70-36946
- Crossed field MHD plasma generator-accelerator  
[NASA-CASE-XLA-03374] c25 N71-15562
- Direct current powered self repeating plasma accelerator with interconnected annular and linear discharge channels  
[NASA-CASE-XLA-03103] c25 N71-21693
- Magnetically controlled plasma accelerator capable of ignition in low density gaseous environment  
[NASA-CASE-XLA-00327] c25 N71-29184
- Two stage light gas-plasma projectile accelerator  
[NASA-CASE-MPS-22287-1] c75 N76-14931
- PLASMA CONTROL**  
Superconducting magnetic field trapping device for producing magnetic field in air  
[NASA-CASE-XNP-01185] c26 N73-28710
- Self-energized plasma compressor --- for compressing plasma discharged from coaxial plasma generator  
[NASA-CASE-MPS-22145-1] c75 N75-13625
- PLASMA CYLINDERS**  
Plasma-fluidic hybrid display system combining high brightness and memory characteristics  
[NASA-CASE-ERC-10100] c09 N71-33519
- PLASMA DENSITY**  
Apertured electrode focusing system for ion sources with nonuniform plasma density  
[NASA-CASE-XNP-03332] c09 N71-10618
- Measurement of plasma temperature and density using radiation absorption



- [NASA-CASE-ARC-10598-1] c25 N74-30156
- PLASMA DIAGNOSTICS**
- Plasma probes having guard ring and primary sensor at same potential to prevent stray wall current collection in ionized gases [NASA-CASE-XLE-00690] c25 N69-39884
- Apparatus for measuring conductivity and velocity of plasma with multiple sensing coils positioned in plasma [NASA-CASE-XAC-05695] c25 N71-16073
- Measurement of plasma temperature and density using radiation absorption [NASA-CASE-ARC-10598-1] c25 N74-30156
- PLASMA DYNAMICS**
- Apparatus for measuring conductivity and velocity of plasma with multiple sensing coils positioned in plasma [NASA-CASE-XAC-05695] c25 N71-16073
- Self-energized plasma compressor --- for compressing plasma discharged from coaxial plasma generator [NASA-CASE-MPS-22145-1] c75 N75-13625
- PLASMA ENGINES**
- Nonconductive tube as feed system for plasma thruster [NASA-CASE-XLE-02902] c25 N71-21694
- PLASMA GENERATORS**
- Apparatus for producing highly conductive, high temperature electron plasma with homogenous temperature and pressure distribution [NASA-CASE-XLA-00147] c25 N70-34661
- Crossed field MHD plasma generator-accelerator [NASA-CASE-XLA-03374] c25 N71-15562
- Coaxial, high density, hypervelocity plasma generator and accelerator using electrodes [NASA-CASE-MPS-20589] c25 N72-32688
- Self-energized plasma compressor --- for compressing plasma discharged from coaxial plasma generator [NASA-CASE-MPS-22145-1] c75 N75-13625
- Self-energized plasma compressor [NASA-CASE-MPS-22145-2] c75 N76-17951
- PLASMA GUNS**
- Plasma spraying gun for forming diffusion bonded metal or ceramic coatings on substrates [NASA-CASE-XLE-01604-2] c15 N71-15610
- PLASMA JETS**
- Method of preparing water purification membranes --- polymerization of allyl amine as thin films in plasma discharge [NASA-CASE-ARC-10643-1] c25 N75-12087
- Combination automatic-starting electrical plasma torch and gas shutoff valve --- for satellite attitude control [NASA-CASE-XLE-10717] c37 N75-29426
- Plasma cleaning device [NASA-CASE-MPS-22906-1] c75 N76-24001
- PLASMA LAYERS**
- Electrostatic modulator for communicating through plasma sheath formed around spacecraft during reentry [NASA-CASE-XLA-01400] c07 N70-41331
- Method and apparatus for communicating through ionized layer of gases surrounding spacecraft during reentry into planetary atmospheres [NASA-CASE-XLA-01127] c07 N70-41372
- Reentry communication by injection of water droplets into plasma layer surrounding space vehicle [NASA-CASE-XLA-01552] c07 N71-11284
- PLASMA POTENTIALS**
- Method and apparatus for measuring potentials in plasmas [NASA-CASE-XLE-00821] c25 N71-15650
- Method and apparatus for neutralizing potentials induced on spacecraft surfaces [NASA-CASE-GSC-11963-1] c33 N75-27265
- PLASMA PROBES**
- Plasma probes having guard ring and primary sensor at same potential to prevent stray wall current collection in ionized gases [NASA-CASE-XLE-00690] c25 N69-39884
- Small plasma probe using tungsten wire collector in tubular shield [NASA-CASE-XLE-02578] c25 N71-20747
- PLASMA PROPULSION**
- Method of making dished ion thruster grids [NASA-CASE-LEW-11694-1] c20 N75-18310
- PLASMA RADIATION**
- Development of method for measuring electron density gradients of plasma sheath around space vehicle during atmospheric entry [NASA-CASE-XLA-06232] c25 N71-20563
- Apparatus for producing monochromatic light from continuous plasma source [NASA-CASE-XNP-04167-2] c25 N72-24753
- PLASMA SHEATHS**
- Space environment simulation system for measuring spacecraft electric field strength in plasma sheath [NASA-CASE-XLE-02038] c09 N71-16086
- Development of method for measuring electron density gradients of plasma sheath around space vehicle during atmospheric entry [NASA-CASE-XLA-06232] c25 N71-20563
- PLASMA SPRAYING**
- Flame or plasma spraying for molybdenum coating of carbon or graphite surfaces to prevent oxidative corrosion [NASA-CASE-XLA-00302] c15 N71-16077
- PLASMA TEMPERATURE**
- Measurement of plasma temperature and density using radiation absorption [NASA-CASE-ARC-10598-1] c25 N74-30156
- PLASMAS (PHYSICS)**
- Apparatus for measuring conductivity and velocity of plasma with multiple sensing coils positioned in plasma [NASA-CASE-XAC-05695] c25 N71-16073
- PLASTIC COATINGS**
- Process permitting application of synthetic resin coating to irregular-shaped objects at ambient temperature [NASA-CASE-XNP-06508] c18 N69-39895
- Development and characteristics of system for skin packaging articles using thermoplastic film heating and vacuum operated equipment [NASA-CASE-MPS-20855] c15 N73-27405
- Polymer coatings for moisture protection of optical windows in infrared spectroscopy [NASA-CASE-ARC-10749-1] c23 N73-32542
- Silicon nitride coated, plastic covered solar cell [NASA-CASE-LEW-11496-1] c44 N76-14613
- PLASTIC DEFORMATION**
- Process for analysis of strain field of structures subjected to large deformations involving low modulus substrate with thin coating [NASA-CASE-LAR-10765-1] c32 N73-20740
- PLASTIC TAPES**
- Development of flexible thermocouple in form of tape for adaptation to special temperature measuring conditions [NASA-CASE-LEW-11072-1] c14 N73-24472
- PLASTICS**
- Hot forming of plastic sheets [NASA-CASE-XMS-05516] c15 N71-17803
- Technique for making foldable, inflatable, plastic honeycomb core panels for use in building and bridge structures, light and radio wave reflectors, and spacecraft [NASA-CASE-XLA-03492] c15 N71-22713
- Electrode sealing and insulation for fuel cells containing caustic liquid electrolytes using powdered plastic and metal [NASA-CASE-XMS-01625] c15 N71-23022
- Dielectric apparatus for heating, fusing, and hardening of organic matrix to form plastic material into shaped product [NASA-CASE-LAR-10121-1] c15 N71-26721
- Plastic sphere for radar tracking and calibration [NASA-CASE-XLA-11154] c07 N72-21117
- Molding apparatus --- for thermosetting plastic compositions [NASA-CASE-LAR-10489-2] c15 N74-32920
- Abrasion resistant coatings for plastic surfaces [NASA-CASE-ARC-10915-1] c27 N76-13292
- Ultraviolet and thermally stable polymer compositions [NASA-CASE-ARC-10592-2] c27 N76-32315
- PLATES (STRUCTURAL MEMBERS)**
- Foil seal between parts moving relative to each other [NASA-CASE-XLE-05130] c15 N69-21362
- PLATING**
- Selective plating of etched circuits without removing previous plating

- [NASA-CASE-XGS-03120] c15 N71-24047  
Metal plating process employing spraying of  
metallic power/peening particle mixture  
[NASA-CASE-GSC-11163-1] c15 N73-32360  
Scanning nozzle plating system --- for etching  
or plating metals on substrates without masking  
[NASA-CASE-NPO-11758-1] c15 N74-23065
- PLATINUM**  
Electrolytic cell structure  
[NASA-CASE-LAR-11042-1] c33 N75-27252
- PLAYBACKS**  
Method of and means for testing a tape  
record/playback system  
[NASA-CASE-MFS-22671-2] c35 N75-31418
- PLENUM CHAMBERS**  
Platform with several ground effect pads and  
plenum chambers  
[NASA-CASE-MFS-14685] c31 N71-15689  
Development of filter apparatus for gas  
separation and characteristics of filter cell  
support frame for improved operation  
[NASA-CASE-MSC-12297] c14 N72-23457
- PLETHYSMOGRAPHY**  
Readout electrode assembly for measuring  
biological impedance  
[NASA-CASE-ARC-10816-1] c35 N76-24525
- PLOTTERS**  
Plotter device for automatically drawing  
equipotential lines on sheet of resistance paper  
[NASA-CASE-NPO-11134] c09 N72-21246
- PLOTTING**  
Instrument for measuring potentials on two  
dimensional electric field plot  
[NASA-CASE-XLA-08493] c10 N71-19421
- PLUG NOZZLES**  
Cascade plug nozzle --- for jet noise reduction  
[NASA-CASE-LAR-11674-1] c07 N76-18117
- PLUGS**  
Rocket chamber leak test fixture using tubular  
plug  
[NASA-CASE-XFR-09479] c14 N69-27503  
Fatigue resistant shear pin with hollow shaft  
and two plugs  
[NASA-CASE-XLA-09122] c15 N69-27505  
Control of gas flow from pressurized vessel by  
thermal expansion of metal plug  
[NASA-CASE-NPO-10298] c12 N71-17661  
Heated porous plug microthrustor for spacecraft  
reaction jet controlled systems such as fuel  
flow regulation, propellant disassociation,  
and heat transfer augmentation  
[NASA-CASE-GSC-10640-1] c28 N72-18766
- PNEUMATIC CONTROL**  
Pneumatic system for cyclic control of fluid  
flow in pneumatic device  
[NASA-CASE-XMS-04843] c03 N69-21469  
Pneumatic control of telescopic mirror support  
system  
[NASA-CASE-XLA-03271] c11 N69-24321  
Actuator using compressed gas as driving force  
to control valve handling large liquid flows  
[NASA-CASE-XHQ-01208] c15 N70-35409  
Pneumatic mechanism for releasing hook and loop  
fasteners between large rigid structures  
[NASA-CASE-XMS-10660-1] c15 N71-25975  
Pneumatic foot pedal operated fluidic exercising  
device  
[NASA-CASE-MSC-11561-1] c05 N73-32014  
Pneumatic load compensating or controlling system  
[NASA-CASE-ARC-10907-1] c37 N75-32465
- PNEUMATIC EQUIPMENT**  
Development and characteristics of high pressure  
control valve  
[NASA-CASE-MSC-11010] c15 N71-19485  
Pneumatic cantilever beams and platform for  
space erectable structure  
[NASA-CASE-XLA-01731] c32 N71-21045  
Fluid transferring system design for purging  
toxic, corrosive, or noxious fluids and fumes  
from materials handling equipment for  
cleansing and accident prevention  
[NASA-CASE-XMS-01905] c12 N71-21089  
Zero gravity apparatus utilizing pneumatic  
decelerating means to create payload subjected  
to zero gravity conditions by dropping its  
height  
[NASA-CASE-XMP-06515] c14 N71-23227  
Pneumatic servoamplifier for controlling flow  
regulation
- [NASA-CASE-MSC-12121-1] c15 N71-27147  
Inflatable stabilizing system for use on life  
raft to reduce rocking and preclude capsizing  
[NASA-CASE-MSC-12393-1] c02 N73-26006
- Airlock**  
[NASA-CASE-MFS-20922-1] c15 N74-22136
- Servo valve**  
[NASA-CASE-LAR-11643-1] c37 N75-13268  
Pneumatic load compensating or controlling system  
[NASA-CASE-ARC-10907-1] c37 N75-32465
- POINT SOURCES**  
Electronic background suppression field scanning  
sensor for detecting point source targets  
[NASA-CASE-XGS-05211] c07 N69-39980  
X ray collimating structure for focusing  
radiation directly onto detector  
[NASA-CASE-XHQ-04106] c14 N70-40240
- POINTING CONTROL SYSTEMS**  
Development of reflector system for application  
to line-of-sight pointing and tracking  
telescopes  
[NASA-CASE-NPO-10468] c23 N71-33229  
Magnetic suspension and pointing system  
[NASA-CASE-LAR-11889-1] c19 N76-18227
- POLAR ORBITS**  
Spin phase synchronization of cartwheel  
satellite in polar orbit  
[NASA-CASE-XGS-05579] c31 N71-15676
- POLARIMETERS**  
Automatic polarimeter capable of measuring  
transient birefringence changes in  
electro-optic materials  
[NASA-CASE-XNP-08883] c23 N71-16101  
Two beam interferometer-polarimeter  
[NASA-CASE-NPO-11239] c14 N73-12446  
Forward-scatter polarimeter for determining the  
gaseous depolarization factor in the presence  
of polluting polydispersed particles  
[NASA-CASE-NPO-13756-1] c35 N76-14434
- POLARITY**  
Converting output of positive dc voltage source  
to negative dc voltage across load with common  
reference point  
[NASA-CASE-XMP-08217] c03 N71-23239  
Peak polarity selector for monitoring waveforms  
[NASA-CASE-PRC-10010] c10 N71-24862  
Precision full wave rectifier circuit for  
rectifying incoming electrical signals having  
positive or negative polarity with only  
positive output signals  
[NASA-CASE-ARC-10101-1] c09 N71-33109
- POLARIZATION (WAVES)**  
System for interference signal nulling by  
polarization adjustment  
[NASA-CASE-NPO-13140-1] c32 N75-24982
- POLARIZED ELECTROMAGNETIC RADIATION**  
Device for improving efficiency of parabolic  
horn antenna system for linearly polarized  
signals  
[NASA-CASE-XNP-00611] c09 N70-35219  
Device for improving efficiency of parabolic  
reflector horn for linearly or circularly  
polarized waves  
[NASA-CASE-XNP-00540] c09 N70-35382
- POLARIZED LIGHT**  
Polarization compensator for optical  
communications  
[NASA-CASE-GSC-11782-1] c74 N76-30053
- POLISHING**  
Conforming polisher for aspheric surfaces of  
revolution with inflatable tube  
[NASA-CASE-XGS-02884] c15 N71-22705
- POLLUTION CONTROL**  
System for minimizing internal combustion engine  
pollution emission  
[NASA-CASE-NPO-13402-1] c37 N76-18457
- POLLUTION MONITORING**  
Fluorescence detector for monitoring atmospheric  
pollutants  
[NASA-CASE-NPO-13231-1] c45 N75-27585  
Stack plume visualization system  
[NASA-CASE-LAR-11675-1] c45 N76-17656  
Indicator providing continuous indication of the  
presence of a specific pollutant in air  
[NASA-CASE-NPO-13474-1] c45 N76-21742  
Method for detecting pollutants --- through  
chemical reactions and heat treatment  
[NASA-CASE-LAR-11405-1] c45 N76-31714

## POLYBUTADIENE

- Synthesis of polyfluorobutadiene by polymerization of perfluorobutadiene with diisopropyl peroxydicarbonate  
[NASA-CASE-NPO-10863] c06 N70-11251
- Low pressure perfluorobutadiene polymerization with peroxide catalysts  
[NASA-CASE-NPO-10447] c06 N70-11252

## POLYCARBONATES

- Transparent polycarbonate resin, shell helmet and latch design for high altitude and space flight  
[NASA-CASE-XMS-04935] c05 N71-11190

## POLYCRYSTALS

- Improved low cost substrates for polycrystalline solar cells --- for solar energy conversion  
[NASA-CASE-GSC-12022-2] c44 N76-26695
- Fabrication of polycrystalline solar cells on low-cost substrates  
[NASA-CASE-GSC-12022-1] c44 N76-28635

## POLYESTERS

- Carboxyl terminated polyester prepolymers and foams produced from prepolymers and materials  
[NASA-CASE-NPO-10596] c06 N71-25929
- Apparatus for forming drive belts  
[NASA-CASE-NPO-13205-1] c15 N74-32917
- Flexible formulated plastic separators for alkaline batteries  
[NASA-CASE-LEW-12363-1] c44 N76-19552

## POLYETHER RESINS

- Preparation of stable polyurethane polymer by reacting polymer with diisocyanate  
[NASA-CASE-MFS-10506] c06 N73-30100
- Preparation of fluorohydroxy ethers by reacting fluoroalkylene oxides with alkali salt of polyfluoroalkylene diol  
[NASA-CASE-MFS-10507] c06 N73-30101
- Preparation of fluorinated polyethers from 2-hydro-perhaloisopropyl alcohols  
[NASA-CASE-MFS-11492] c06 N73-30102
- Flexible formulated plastic separators for alkaline batteries  
[NASA-CASE-LEW-12363-1] c44 N76-19552

## POLYIMIDE RESINS

- Polyimide adhesives  
[NASA-CASE-LAR-11397-1] c27 N75-29263

## POLYIMIDES

- Stable polyimide synthesis from mixtures of monomeric diamines and polycarboxylic acid esters  
[NASA-CASE-LEW-11325-1] c06 N73-27980
- Polyimide foam for the thermal insulation and fire protection  
[NASA-CASE-ARC-10464-1] c06 N74-12812
- Aromatic polyimide preparation --- with low softening temperatures  
[NASA-CASE-LAR-11372-1] c06 N74-19772
- Reinforced structural plastics  
[NASA-CASE-LEW-10199-1] c18 N74-23125
- A method of preparing aromatic polyimides having uniquely low softening temperatures  
[NASA-CASE-LAR-11828-1] c23 N75-29181
- Polyimides of ether-linked aryl tetracarboxylic dianhydrides  
[NASA-CASE-MFS-22355-1] c23 N76-15268
- Honeycomb-laminate composite structure  
[NASA-CASE-ARC-10913-1] c24 N76-26286

## POLYISOBUTYLENE

- Chemical process for production of polyisobutylene compounds and application as solid rocket propellant binder  
[NASA-CASE-NPO-10893] c27 N73-22710

## POLYMER CHEMISTRY

- New trifunctional alcohol derived from trimer acid and novel method of preparation  
[NASA-CASE-NPO-10714] c06 N69-31244
- Synthesis of siloxane containing epoxy polymers with low dielectric properties  
[NASA-CASE-MFS-13994-1] c06 N71-11240
- Apparatus for determining volatile condensable material present in polymeric products  
[NASA-CASE-XNP-09699] c06 N71-24607
- Catalytic trimerization of aromatic nitriles and triaryl-s-triazine ring cross-linked high temperature resistant polymers and copolymers made thereby  
[NASA-CASE-LEW-12053-1] c06 N74-34579
- Polyimide adhesives  
[NASA-CASE-LAR-11397-1] c27 N75-29263

## POLYMERIC FILMS

- Ethylene oxide sterilization and encapsulating process for sterile preservation of instruments and solid propellants  
[NASA-CASE-XNP-09763] c14 N71-20461
- Hydraulic apparatus for casting and molding of liquid polymers  
[NASA-CASE-XNP-07659] c06 N71-22975
- Thermoelectric radiometer using polymer film as capacitor  
[NASA-CASE-ARC-10138-1] c14 N72-24477
- Development and characteristics of system for skin packaging articles using thermoplastic film heating and vacuum operated equipment  
[NASA-CASE-MFS-20855] c15 N73-27405
- Covered silicon solar cells and method of manufacture --- with polymeric films  
[NASA-CASE-LEW-11065-2] c44 N76-14600

## POLYMERIZATION

- Synthesis of polyfluorobutadiene by polymerization of perfluorobutadiene with diisopropyl peroxydicarbonate  
[NASA-CASE-NPO-10863] c06 N70-11251
- Low pressure perfluorobutadiene polymerization with peroxide catalysts  
[NASA-CASE-NPO-10447] c06 N70-11252
- Process for interfacial polymerization of pyromellitic dianhydride and tetraamino benzene  
[NASA-CASE-XLA-03104] c06 N71-11235
- Synthesis and chemical properties of imidazopyrrolone/imide copolymers  
[NASA-CASE-XLA-08802] c06 N71-11238
- Direct synthesis of polymeric schiff bases from two amines and two aldehydes  
[NASA-CASE-XMP-08655] c06 N71-11239
- Synthesis of azine polymers for heat shields by azine-aromatic aldehyde reaction  
[NASA-CASE-XMP-08656] c06 N71-11242
- Synthesis of schiff bases for heat shields by acetal amine reactions  
[NASA-CASE-XMP-08652] c06 N71-11243
- Preparation of elastomeric diamine silazane polymers  
[NASA-CASE-XMP-04133] c06 N71-20717
- Reaction of polyperfluoropolyenes with fluorine to produce saturated polymer chain or create reactive sites on chain  
[NASA-CASE-NPO-10862] c06 N72-22107
- Silphenylenesiloxane polymer with in-chain perfluoroalkyl groups  
[NASA-CASE-MFS-20979] c06 N72-25151
- Polymerization of perfluorobutadiene  
[NASA-CASE-NPO-10863-2] c06 N72-25152
- Preparation of fluorohydroxy ethers by reacting fluoroalkylene oxides with alkali salt of polyfluoroalkylene diol  
[NASA-CASE-MFS-10507] c06 N73-30101
- Preparation of fluorinated polyethers from 2-hydro-perhaloisopropyl alcohols  
[NASA-CASE-MFS-11492] c06 N73-30102
- Fabrication of polyphenylquinoxaline composite articles by means of in situ polymerization of monomers  
[NASA-CASE-LEW-11879-1] c18 N74-20152
- Method of preparing water purification membranes --- polymerization of allyl amine as thin films in plasma discharge  
[NASA-CASE-ARC-10643-1] c25 N75-12087
- Preparation of dielectric coatings of variable dielectric constant by plasma polymerization  
[NASA-CASE-ARC-10892-1] c27 N75-26136
- Utilization of oxygen difluoride for syntheses of fluoropolymers  
[NASA-CASE-NPO-12061-1] c27 N76-16228
- Polymeric foams from cross-linkable poly-N-arylenebenzimidazoles  
[NASA-CASE-ARC-11008-1] c27 N76-28421
- POLYMERS**
- Preparation of ordered poly(arylenesiloxane) polymers  
[NASA-CASE-XMP-10753] c06 N71-11237
- Synthesis of aromatic diamines and dialdehyde polymers using Schiff base  
[NASA-CASE-XMP-03074] c06 N71-24740
- Automated ball rebound resilience test equipment for determining viscoelastic properties of polymers  
[NASA-CASE-XLA-08254] c14 N71-26161

Infusible polymer production from reaction of polyfunctional epoxy resins with polyfunctional aziridine compounds  
[NASA-CASE-NPO-10701] c06 N71-28620

Development of solid state polymer coating for obtaining thermal balance in spacecraft components  
[NASA-CASE-XLA-01745] c33 N71-28903

Mercaptan terminated polymer containing sulfonic acid salts of nitrosubstituted aromatic amines for heat and moisture resistant coatings  
[NASA-CASE-ARC-10325] c06 N72-25147

Solid propellant containing hydrazinium nitroformate oxidizer and polymeric hydrocarbon binder  
[NASA-CASE-NPO-12015] c27 N73-16764

Chemical process for production of polyisobutylene compounds and application as solid rocket propellant binder  
[NASA-CASE-NPO-10893] c27 N73-22710

Utilization of lithium p-lithiphenoxide to prepare star polymers  
[NASA-CASE-NPO-10998-1] c06 N73-32029

Ultraviolet and thermally stable polymer compositions  
[NASA-CASE-ARC-10592-1] c18 N74-21156

Oil and fat absorbing polymers  
[NASA-CASE-NPO-11609-A] c27 N76-26345

Ultraviolet and thermally stable polymer compositions  
[NASA-CASE-ARC-10592-2] c27 N76-32315

**POLYSACCHARIDES**

Aldehyde-containing urea-absorbing polysaccharides  
[NASA-CASE-NPO-13620-1] c23 N76-26278

**POLYTETRAFLUOROETHYLENE**

Procedure for bonding polytetrafluoroethylene thermal protective sleeves to magnesium alloy conical shell components with different thermal coefficients  
[NASA-CASE-XLA-01262] c15 N71-21404

**POLYURETHANE FOAM**

Self-erectable space structures of flexible foam for application in planetary orbits  
[NASA-CASE-XLA-00686] c31 N70-34135

Modification of polyurethanes with alkyl halide resins, inorganic salts, and encapsulated volatile and reactive halogen for fuel fire control  
[NASA-CASE-ARC-10098-1] c06 N71-24739

Flexible fire retardant polyisocyanate modified neoprene foam --- for thermal protective devices  
[NASA-CASE-ARC-10180-1] c06 N74-12814

Fiber modified polyurethane foam for ballistic protection  
[NASA-CASE-ARC-10714-1] c27 N76-15310

Mixing insert for foam dispensing apparatus  
[NASA-CASE-MPS-20607-1] c37 N76-19436

Polymeric foams from cross-linkable poly-N-arylenebenzimidazoles  
[NASA-CASE-ARC-11008-1] c27 N76-28421

**POLYURETHANE RESINS**

Chemical synthesis of hydroxy terminated perfluoro ethers as intermediates for highly fluorinated polyurethane resins  
[NASA-CASE-NPO-10768] c06 N71-27254

Formation of polyurethane resins from hydroxy terminated perfluoro ethers  
[NASA-CASE-NPO-10768-2] c06 N72-27144

Fluorinated polyurethanes produced by reacting hydroxy terminated perfluoro polyether with diisocyanate  
[NASA-CASE-NPO-10767-2] c06 N72-27151

Chemical and physical properties of synthetic polyurethane polymer prepared by reacting hydroxy carbonate with organic diisocyanate  
[NASA-CASE-MPS-10512] c06 N73-30099

Preparation of stable polyurethane polymer by reacting polymer with diisocyanate  
[NASA-CASE-MPS-10506] c06 N73-30100

Preparation of polyurethane polymer by reacting hydroxy polyformal with organic diisocyanate  
[NASA-CASE-MPS-10509] c06 N73-30103

Chemical and elastic properties of fluorinated polyurethanes  
[NASA-CASE-NPO-10767-1] c06 N73-33076

**PONDS**

Solar pond  
[NASA-CASE-NPO-13581-1] c44 N75-27560

**PORCELAIN**

Refractory porcelain enamel passive control coating for high temperature alloys  
[NASA-CASE-MPS-22324-1] c27 N75-27160

**POROSITY**

Process for making sheets with parallel pores of uniform size  
[NASA-CASE-GSC-10984-1] c37 N75-26371

**POROUS MATERIALS**

Production of refractory bodies with controlled porosity by pressing and heating mixtures of refractory and inert metal powders  
[NASA-CASE-LEW-10393-1] c17 N71-15468

Multilayer porous refractory metal ionizer design with thick, porous, large-grain substrates and thin, porous micron-grain substrates  
[NASA-CASE-XNP-04338] c17 N71-23046

Lubrication for bearings by capillary action from oil reservoir of porous material  
[NASA-CASE-XNP-03972] c15 N71-23048

Method and photodetector device for locating abnormal voids in low density materials  
[NASA-CASE-MPS-20044] c14 N71-28993

Production method for manufacturing porous tungsten bodies from tungsten powder particles  
[NASA-CASE-XNP-04339] c17 N71-29137

Compressible electrolyte saturated sponge electrode for biomedical applications  
[NASA-CASE-MSC-13648] c05 N72-27103

Porous electrode for use in electrochemical cells  
[NASA-CASE-GSC-11368-1] c09 N73-32108

Method of making porous conductive supports for electrodes --- by electroforming and stacking nickel foils  
[NASA-CASE-GSC-11367-1] c03 N74-19692

**POROUS PLATES**

Method for producing porous tungsten plates for ionizing cesium compounds for propulsion of ion engines  
[NASA-CASE-XLE-00455] c28 N70-38197

**PORTABLE EQUIPMENT**

Portable electron beam welding chamber  
[NASA-CASE-LEW-11531] c15 N71-14932

Portable apparatus producing high velocity annular air column surrounding low velocity, filtered, superclean air central core for industrial clean room environmental control  
[NASA-CASE-XMP-03212] c15 N71-22721

Portable cutting machine for piping weld preparation  
[NASA-CASE-XKS-07953] c15 N71-26134

Method and apparatus for precision sizing and joining of large diameter tubes by bulging or constricting overlapping ends  
[NASA-CASE-XMP-05114-2] c15 N71-26148

Portable cryogenic cooling system design including turbine pump, cooling chamber, and atomizer  
[NASA-CASE-NPO-10467] c23 N71-26654

Automatic controlled drive mechanism for portable boring bar  
[NASA-CASE-XLA-03661] c15 N71-33518

One hand backpack harness  
[NASA-CASE-LAR-10102-1] c05 N72-23085

Portable tester for monitoring bacterial contamination by adenosine triphosphate light reaction  
[NASA-CASE-GSC-10879-1] c14 N72-25413

Portable penetrometer for analyzing soil characteristics  
[NASA-CASE-MPS-20774] c14 N73-19420

Hand-held, lightweight, portable photomicroscope  
[NASA-CASE-ARC-10468-1] c14 N73-33361

System for enhancing tool-exchange capabilities of a portable wrench  
[NASA-CASE-MPS-22283-1] c37 N75-33395

An improved load handling device  
[NASA-CASE-MPS-23233-1] c54 N75-33725

Method of peening and portable peening gun  
[NASA-CASE-MPS-23047-1] c37 N76-18454

Optical instrument employing reticle having preselected visual response pattern formed thereon  
[NASA-CASE-ARC-10976-1] c74 N76-20959

Portable, linear-focused solar thermal energy collecting system  
[NASA-CASE-NPO-13734-1] c44 N76-26690

## PORTS (OPENINGS)

Sealing evacuation port and evacuating vacuum container such as space jackets  
[NASA-CASE-XMP-03290] c15 N71-23256

## POSITION (LOCATION)

Position locating system for remote aircraft using voice communication and digital signals  
[NASA-CASE-GSC-10087-2] c21 N71-13958  
Development of telemetry system for position location and data acquisition  
[NASA-CASE-GSC-10083-1] c30 N71-16090  
Automatic braking device for rapidly transferring humans or materials from elevated location  
[NASA-CASE-XKS-07814] c15 N71-27067  
System and method for position locating for air traffic control involving supersonic transports  
[NASA-CASE-GSC-10087-3] c07 N72-12080  
Location identification system with ground based transmitter and aircraft borne receiver/decoder  
[NASA-CASE-ERC-10324] c07 N72-25173  
System for detecting impact position of cosmic dust on detector surface  
[NASA-CASE-GSC-11291-1] c25 N72-33696  
Collimator for analyzing spatial location of near and distant sources of radiation  
[NASA-CASE-MPS-20546-2] c14 N73-30389  
Measuring probe position recorder  
[NASA-CASE-LAR-10806-1] c14 N74-32877  
Vehicle locating system utilizing AM broadcasting station carriers  
[NASA-CASE-NPO-13217-1] c32 N75-26194  
Impact position detector for outer space particles  
[NASA-CASE-GSC-11829-1] c35 N75-27331  
Capacitive shaft encoder  
[NASA-CASE-ARC-10897-1] c35 N76-12338  
Aircraft-mounted crash-activated transmitter device  
[NASA-CASE-MPS-16609-3] c03 N76-32140

## POSITION INDICATORS

Rocket-borne aspect sensor consisting of radiation sensor, apertured disk, commutator, and counting circuits  
[NASA-CASE-IGS-08266] c14 N69-27432  
Characteristics and performance of electrical system to determine angular rotation  
[NASA-CASE-XMP-00447] c14 N70-33179  
Magnetic element position sensing device, using misaligned electromagnets  
[NASA-CASE-XGS-07514] c23 N71-16099  
Describing angular position and velocity sensing apparatus  
[NASA-CASE-XGS-05680] c14 N71-17585  
Mosaic semiconductor radiation detector and position indicator systems engineering for low energy particles  
[NASA-CASE-XGS-03230] c14 N71-23401  
Doppler compensated communication system for locating supersonic transport position  
[NASA-CASE-GSC-10087-4] c07 N73-20174  
Meteoroid impact position locator aid for manned space station  
[NASA-CASE-LAR-10629-1] c35 N75-33367  
Position determination systems --- using orbital antenna scan of celestial bodies  
[NASA-CASE-MSC-12593-1] c17 N76-21250

## POSITIONING

Centering device with ultrafine adjustment for use with roundness measuring apparatus  
[NASA-CASE-XMP-00480] c14 N70-39898  
Portable device for aligning surfaces of two adjacent wall or sheet sections for joining at point of junction  
[NASA-CASE-XMP-01452] c15 N70-41371  
Electro-optical/computer system for aligning large structural members and maintaining correct position  
[NASA-CASE-XMP-02029] c14 N70-41955  
Manual control mechanism for adjusting control rod to null position  
[NASA-CASE-XLA-01808] c15 N71-20740  
Rotating raster generator  
[NASA-CASE-FRC-10071-1] c07 N74-20813  
Cyclical bi-directional rotary actuator  
[NASA-CASE-GSC-11883-1] c37 N75-29430

## POSITIONING DEVICES (MACHINERY)

Swivel support for gas bearing for position adjustment between ball and supporting cup  
[NASA-CASE-XMP-07808] c15 N71-23812

Caterpillar micropositioner for positioning machine tools adjacent to workpiece  
[NASA-CASE-GSC-10780-1] c14 N72-16283  
Positioning mechanism for converting translatory motion into rotary motion  
[NASA-CASE-NPO-10679] c15 N72-21462  
Design and development of test stand system for supporting test items in vacuum chamber  
[NASA-CASE-MPS-21362] c11 N73-20267  
Method and apparatus for optically monitoring the angular position of a rotating mirror  
[NASA-CASE-GSC-11353-1] c23 N74-21304  
Automatic focus control for facsimile cameras  
[NASA-CASE-LAR-11213-1] c35 N75-15014  
Reference apparatus for medical ultrasonic transducer  
[NASA-CASE-ARC-10753-1] c54 N75-27760

## POSITIVE FEEDBACK

Complementary regenerative transistorized switch circuit employing positive and negative feedback  
[NASA-CASE-IGS-02751] c09 N71-23015

## POTABLE WATER

Potable water reclamation from human wastes in zero-G environment  
[NASA-CASE-XLA-03213] c05 N71-11207  
Utilization of solar radiation by solar still for converting salt and brackish water into potable water  
[NASA-CASE-XMS-04533] c15 N71-23086  
Chlorine generator for purifying water in life support systems of manned spacecraft  
[NASA-CASE-XLA-08913] c14 N71-28933  
Potable water dispenser  
[NASA-CASE-MPS-21115-1] c05 N74-12779  
Metering gun for dispensing precisely measured charges of fluid  
[NASA-CASE-MPS-21163-1] c05 N74-17853

## POTASSIUM SILICATES

Fireproof potassium silicate coating composition, insoluble in water after application  
[NASA-CASE-GSC-10072] c18 N71-14014

## POTENTIOMETERS (INSTRUMENTS)

Two axis flight controller with potentiometer control shafts directly coupled to rotatable ball members  
[NASA-CASE-XPR-04104] c03 N70-42073  
Device for controlling rotary potentiometer mounted on aircraft steering wheel or aileron control  
[NASA-CASE-XAC-10019] c15 N71-23809  
Mechanical function generators with potentiometer as sensing element  
[NASA-CASE-XAC-00001] c15 N71-28952

## POTTING COMPOUNDS

Removable potting compound for instrument shock protection  
[NASA-CASE-XLA-00482] c15 N70-36409  
Flexible, repairable, pottable composition for encapsulating electric connectors  
[NASA-CASE-XGS-05180] c18 N71-25881  
Thermally conductive polymer for potting electrical components  
[NASA-CASE-GSC-11304-1] c06 N72-21105

## POWDER METALLURGY

Freeze casting of metal ceramic and refractory compound powders into plastic slips  
[NASA-CASE-XLE-00106] c15 N71-16076  
Production method for manufacturing porous tungsten bodies from tungsten powder particles  
[NASA-CASE-XMP-04339] c17 N71-29137  
Dry electrode manufacture, using silver powder with cement  
[NASA-CASE-FRC-10029-2] c05 N72-25121  
Grinding mixtures of powdered metals and inert fillers for conversion to halide  
[NASA-CASE-LEW-10450-1] c15 N72-25448  
Superalloys from prealloyed powders at high temperatures  
[NASA-CASE-LEW-10805-1] c15 N73-13465  
Method of heat treating a formed powder product material  
[NASA-CASE-LEW-10805-3] c17 N74-10521  
Method of forming articles of manufacture from superalloy powders  
[NASA-CASE-LEW-10805-2] c15 N74-13179  
Cermets composition and method of fabrication --- heat resistant alloys and powders  
[NASA-CASE-NPO-13120-1] c27 N76-15311

## POWER

Nonequilibrium radiation nuclear reactor  
[NASA-CASE-HQN-10841-1] c73 N75-22108

## POWER AMPLIFIERS

Characteristics of high power, low distortion,  
alternating current power amplifier  
[NASA-CASE-LAR-10218-1] c09 N70-34559  
Power supply with automatic power factor  
conversion system  
[NASA-CASE-XMS-02159] c10 N71-22961  
Solid state broadband stable power amplifier  
[NASA-CASE-XNP-10854] c10 N71-26331  
High efficiency transformerless amplitude  
modulator coupled to RF power amplifier  
[NASA-CASE-GSC-10668-1] c07 N71-28430  
Isolated output system for a class D  
switching-mode amplifier  
[NASA-CASE-MPS-21616-1] c33 N75-30429

## POWER EFFICIENCY

Low power drain transistor feedback circuit  
[NASA-CASE-XGS-04999] c09 N69-24317  
Excitation and detection circuitry for flux  
responsive magnetic head  
[NASA-CASE-XNP-04183] c09 N69-24329  
Increasing available power per unit area in ion  
rocket engine by increasing beam density  
[NASA-CASE-XLE-00519] c28 N70-41576  
Absorbing gas reactivity control system for  
minimizing power distribution and perturbation  
in nuclear reactors  
[NASA-CASE-XLE-04599] c22 N72-20597  
Remote platform power conserving system  
[NASA-CASE-GSC-11182-1] c15 N75-13007

## POWER GAIN

Serrodyne traveling wave tube reentrant  
amplifier for synchronous communication  
satellites operating at microwave frequencies  
[NASA-CASE-XGS-01022] c07 N71-16088  
Switching circuit for control of cathode ray  
tube beam with fast rise time for output signal  
[NASA-CASE-KSC-10647-1] c10 N72-31273

## POWER LIMITERS

Monostable multivibrator for conserving power in  
spacecraft systems  
[NASA-CASE-GSC-10082-1] c10 N72-20221

## POWER LINES

Patent data on terminal insert connector for  
flat electric cables  
[NASA-CASE-XMF-00324] c09 N70-34596  
Motor run-up system --- power lines  
[NASA-CASE-NPO-13374-1] c33 N75-19524

## POWER SERIES

Describing circuit for obtaining sum of squares  
of numbers  
[NASA-CASE-XGS-04765] c08 N71-18693  
Phase modulator  
[NASA-CASE-LAR-11607-1] c32 N76-10356

## POWER SPECTRA

Method and apparatus for high resolution power  
spectrum analysis  
[NASA-CASE-NPO-10748] c08 N72-20177

## POWER SUPPLIES

Tape recorder designed for low power consumption  
and resistance to operational failure under  
high stress conditions  
[NASA-CASE-XGS-08259] c14 N71-23698  
Current dependent variable inductance for input  
filter chokes of ac or dc power supplies  
[NASA-CASE-ERC-10139] c09 N72-17154  
Performance of ac power supply developed for CO2  
laser system  
[NASA-CASE-GSC-11222-1] c16 N73-32391  
High voltage distributor  
[NASA-CASE-GSC-11849-1] c33 N76-16332

## POWER SUPPLY CIRCUITS

Regulated dc to dc converter  
[NASA-CASE-XGS-03429] c03 N69-21330  
Power control switching circuit using low  
voltage semiconductor controlled rectifiers  
for high voltage isolation  
[NASA-CASE-XNP-02713] c10 N69-39888  
Increasing power conversion efficiency of  
electronic amplifiers by power supply switching  
[NASA-CASE-XMS-00945] c09 N71-10798  
Electric power system utilizing thermionic  
plasma diodes in parallel and heat pipes as  
cathodes  
[NASA-CASE-XMF-05843] c03 N71-11055

Pulsed energy power system for application of  
combustible gases to turbine controlling ac  
voltage generator  
[NASA-CASE-MSC-13112] c03 N71-11057  
Data processor having multiple sections  
activated at different times by selective  
power coupling to sections  
[NASA-CASE-IGS-04767] c08 N71-12494  
Microwave power receiving antenna solving heat  
dissipation problems by construction of  
elements as heat pipe devices  
[NASA-CASE-MPS-20333] c09 N71-13486  
Design, development, and operating principles of  
power supply with starting circuit which is  
independent of voltage regulator  
[NASA-CASE-XMS-01991] c09 N71-21449  
Power supply with automatic power factor  
conversion system  
[NASA-CASE-XMS-02159] c10 N71-22961  
Electric circuit for reversing direction of  
current flow  
[NASA-CASE-XNP-00952] c10 N71-23271  
Power supply with overload protection for series  
stage transistor  
[NASA-CASE-XMS-00913] c10 N71-23543  
Automatic power supply circuit design for  
driving inductive loads and minimizing power  
consumption including solenoid example  
[NASA-CASE-NPO-10716] c09 N71-24892  
Unsaturating magnetic core transformer design  
with warning signal for electrical power  
processing equipment  
[NASA-CASE-ERC-10125] c09 N71-24893  
Device for monitoring voltage by generating  
signal when voltages drop below predetermined  
value  
[NASA-CASE-KSC-10020] c10 N71-27338  
Power point tracker for maintaining optimal  
output voltage of power source  
[NASA-CASE-GSC-10376-1] c14 N71-27407  
Microwave power divider for providing variable  
output power to output waveguide in fixed  
waveguide system  
[NASA-CASE-NPO-11031] c07 N71-33606  
Circuit for monitoring power supply by ripple  
current indication  
[NASA-CASE-KSC-10162] c09 N72-11225  
Dc to ac to dc converter with transistor driven  
synchronous rectifiers  
[NASA-CASE-GSC-11126-1] c09 N72-25253  
LC-oscillator with automatic stabilized  
amplitude via bias current control --- power  
supply circuit for transducers  
[NASA-CASE-MPS-21698-1] c09 N74-26732  
Integrable power gyrator --- with Z-matrix  
design using parallel transistors  
[NASA-CASE-MPS-22342-1] c33 N75-30428  
Control for nuclear thermionic power source ---  
power supply circuits, energy policy  
[NASA-CASE-NPO-13114-2] c44 N76-15573

PRECESSION  
Dynamic precession damping of spin-stabilized  
vehicles by using rate gyroscope and angular  
accelerometer  
[NASA-CASE-XLA-01989] c21 N70-34295

PRECIPITATION (CHEMISTRY)  
Production of pure metals  
[NASA-CASE-LEW-10906-1] c06 N74-30502

PRECISION  
Precision stepping drive device using cam disk  
[NASA-CASE-MPS-14772] c15 N71-17692  
Method and apparatus for precision sizing and  
joining of large diameter tubes by bulging or  
constricting overlapping ends  
[NASA-CASE-XMF-05114-2] c15 N71-26148

PREFLIGHT OPERATIONS  
Automatic balancing device for use on  
frictionless supported attitude-controlled  
test platforms  
[NASA-CASE-LAR-10774] c10 N71-13545

PRELAUNCH TESTS  
Low loss parasitic probe antenna for prelaunch  
tests of spacecraft antennas  
[NASA-CASE-XKS-09348] c09 N71-13521  
Digital computer system for automatic prelaunch  
checkout of spacecraft  
[NASA-CASE-XKS-08012-2] c31 N71-15566

PREPOLYMERS  
Carboxyl terminated polyester prepolymers and

- foams produced from prepolymers and materials  
[NASA-CASE-NPO-10596] c06 N71-25929
- PRESSURE**  
Strain gage mounting assembly  
[NASA-CASE-NPO-13170-1] c35 N76-14430
- PRESSURE CHAMBERS**  
Triggering system for electric arc driven  
impulse wind tunnel  
[NASA-CASE-XMP-00411] c11 N70-36913  
Whole body measurement systems --- for  
weightlessness simulation  
[NASA-CASE-MSC-13972-1] c05 N74-10975
- PRESSURE DISTRIBUTION**  
Piston device for producing known constant  
positive pressure within lungs by using  
thoracic muscles  
[NASA-CASE-XMS-01615] c05 N70-41329  
Preventing pressure buildup in electrochemical  
cells by reacting palladium oxide with evolved  
hydrogen  
[NASA-CASE-XGS-01419] c03 N70-41864
- PRESSURE DROP**  
Leak detector  
[NASA-CASE-MPS-21761-1] c35 N75-15931
- PRESSURE EFFECTS**  
System for stabilizing cable phase delay  
utilizing a coaxial cable under pressure  
[NASA-CASE-NPO-13138-1] c09 N74-17927  
Evacuated, displacement compression mold --- of  
tubular bodies from thermosetting plastics  
[NASA-CASE-LAR-10782-2] c31 N75-13111  
Internally supported flexible duct joint ---  
device for conducting fluids in high pressure  
systems  
[NASA-CASE-MPS-19193-1] c37 N75-19686
- PRESSURE GAGES**  
Differential pressure cell insensitive to  
changes in ambient temperature and extreme  
overload  
[NASA-CASE-XAC-00042] c14 N70-34816  
Blood pressure measuring system for separately  
recording dc and ac pressure signals of  
Korotkoff sounds  
[NASA-CASE-XMS-06061] c05 N71-23317  
Control system for pressure balance device used  
in calibrating pressure gages  
[NASA-CASE-XMP-04134] c14 N71-23755  
Improved McLeod gage for pressure measurement  
[NASA-CASE-XAC-04458] c14 N71-24232  
Ultrahigh vacuum gauge with two collector  
electrodes  
[NASA-CASE-LAR-02743] c14 N73-32324
- PRESSURE GRADIENTS**  
Positive displacement flowmeter for measuring  
extremely low flows of fluid with self  
calibrating features  
[NASA-CASE-XMP-02822] c14 N70-41994  
Wingtip vortex dissipator for aircraft  
[NASA-CASE-LAR-11645-1] c02 N74-26456
- PRESSURE MEASUREMENTS**  
Design and development of inertia diaphragm  
pressure transducer  
[NASA-CASE-XAC-02981] c14 N71-21072  
Design and development of pressure sensor for  
measuring differential pressures of few pounds  
per square inch  
[NASA-CASE-XMP-01974] c14 N71-22752  
Improved McLeod gage for pressure measurement  
[NASA-CASE-XAC-04458] c14 N71-24232  
Coherent light beam device and method for  
measuring gas density in vacuum chambers  
[NASA-CASE-XER-11203] c14 N71-28994  
Design, development, and characteristics of  
pressure and temperature sensor operating  
immersed in fluid flow  
[NASA-CASE-LEW-10281-1] c14 N72-17327  
Calibration of vacuum gauges for measuring total  
and partial pressures in ultrahigh vacuum region  
[NASA-CASE-XGS-07752] c14 N73-30390  
Absolute pressure measuring device for measuring  
gas density level in high vacuum range  
[NASA-CASE-LAR-10000] c14 N73-30394  
Wind tunnel model and method  
[NASA-CASE-LAR-10812-1] c11 N74-17955
- PRESSURE REDUCTION**  
Relief valve to permit slow and fast bleeding  
rates at difference pressure levels  
[NASA-CASE-XMS-05894-1] c15 N69-21924
- Sealed electric storage battery with gas  
manifold interconnecting each cell  
[NASA-CASE-XNP-03378] c03 N71-11051
- PRESSURE REGULATORS**  
Pressure regulating system with high pressure  
fluid source, adapted to maintain constant  
downstream pressure  
[NASA-CASE-XNP-00450] c15 N70-38603  
Pulmonary resuscitation method and apparatus  
with adjustable pressure regulator  
[NASA-CASE-XMS-01115] c05 N70-39922  
Structural design of high pressure regulator valve  
[NASA-CASE-XNP-00710] c15 N71-10778  
Space suit with pressure-volume compensator system  
[NASA-CASE-XLA-05332] c05 N71-11194  
Portable environmental control and life support  
system for astronaut in and out of spacecraft  
[NASA-CASE-XMS-09632-1] c05 N71-11203  
Antibacklash circuit for hydraulic drive system  
[NASA-CASE-XNP-01020] c03 N71-12260  
High impact pressure regulator having minimum  
number of lightweight movable elements  
[NASA-CASE-NPO-10175] c14 N71-18625  
Pressure regulator for space suit worn  
underwater to simulate space environment for  
testing and experimentation  
[NASA-CASE-MPS-20332] c05 N72-20097  
Underwater space suit pressure control regulator  
[NASA-CASE-MPS-20332-2] c05 N73-25125  
Combined pressure regulator and shutoff valve  
[NASA-CASE-NPO-13201-1] c37 N75-15050  
An improved accumulator  
[NASA-CASE-MPS-19287-1] c34 N76-14418  
Pressure modulating valve  
[NASA-CASE-MSC-14905-1] c34 N76-29537
- PRESSURE SENSORS**  
Fabrication of pressure-telemetry transducers  
[NASA-CASE-XNP-09752] c14 N69-21541  
Pressure probe for sensing ambient static air  
pressures  
[NASA-CASE-XLA-00481] c14 N70-36824  
Ambient atmospheric pressure sensing device for  
determining altitude of flight vehicles  
[NASA-CASE-XLA-00128] c15 N70-37925  
Dynamic sensor for gas pressure or density  
measurement  
[NASA-CASE-XAC-02877] c14 N70-41681  
Design and development of inertia diaphragm  
pressure transducer  
[NASA-CASE-XAC-02981] c14 N71-21072  
Design and development of pressure sensor for  
measuring differential pressures of few pounds  
per square inch  
[NASA-CASE-XMP-01974] c14 N71-22752  
Combination pressure transducer-calibrator  
assembly for measuring fluid  
[NASA-CASE-XNP-01660] c14 N71-23036  
Pressure sensor network for measuring liquid  
dynamic response in flight including fuel tank  
acceleration, liquid slosh amplitude, and fuel  
depth monitoring  
[NASA-CASE-XLA-05541] c12 N71-26387  
Miniature electromechanical junction transducer  
operating on piezoelectric effect and  
utilizing epoxy for stress coupling component  
[NASA-CASE-ERC-10087] c14 N71-27334  
Method for making pressurized meteoroid  
penetration detector panels  
[NASA-CASE-XLA-08916] c15 N71-29018  
Design, development, and characteristics of  
pressure and temperature sensor operating  
immersed in fluid flow  
[NASA-CASE-LEW-10281-1] c14 N72-17327  
Pressure transducer for systems for measuring  
forces of compression  
[NASA-CASE-NPO-10832] c14 N72-21405  
Pressure operated electrical switch responsive  
to pressure decrease after pressure increase  
[NASA-CASE-LAR-10137-1] c09 N72-22204  
Wide range dynamic pressure sensor with  
vibrating diaphragm for measuring density and  
pressure of gaseous environment  
[NASA-CASE-ARC-10263-1] c14 N72-22438  
Development of differential pressure control  
system using motion of mechanical diaphragms  
to operate electric switch  
[NASA-CASE-MPS-14216] c14 N73-13418  
System for calibrating pressure transducer  
[NASA-CASE-LAR-10910-1] c14 N74-13132

- Stagnation pressure probe --- for measuring pressure of supersonic gas streams  
[NASA-CASE-LAR-11139-1] c14 N74-32878
- Circuit for detecting initial systole and diastolic notch --- for monitoring arterial pressure  
[NASA-CASE-LEW-11581-1] c54 N75-13531
- Leak detector  
[NASA-CASE-MFS-21761-1] c35 N75-15931
- Measurement of gas production of microorganisms --- using pressure sensors  
[NASA-CASE-LAR-11326-1] c35 N75-33368
- Static pressure probe  
[NASA-CASE-LAR-11552-1] c35 N76-14429
- Trielectrode capacitive pressure transducer  
[NASA-CASE-ARC-10711-2] c33 N76-21390
- Catheter tip force transducer for cardiovascular research  
[NASA-CASE-NPO-13643-1] c52 N76-29896
- PRESSURE SUITS**
- Helmet and torso tiedown mechanism for shortening pressure suits upon inflation  
[NASA-CASE-XMS-00784] c05 N71-12335
- Design and development of flexible joint for pressure suits  
[NASA-CASE-XMS-09636] c05 N71-12344
- Cord restraint system for pressure suit joints  
[NASA-CASE-XMS-09635] c05 N71-24623
- Development of improved convolute section for pressurized suits to provide high degree of mobility in response to minimum of applied torque  
[NASA-CASE-XMS-09637-1] c05 N71-24730
- Fabrication of root cord restrained fabric suit sections from sheets of fabric  
[NASA-CASE-MSC-12398] c05 N72-20098
- Restraint torso for increased mobility and reduced physiological effects while wearing pressurized suits  
[NASA-CASE-MSC-12397-1] c05 N72-25119
- Flexible joint for pressurizable garment  
[NASA-CASE-MSC-11072] c05 N74-32546
- PRESSURE SWITCHES**
- Reinforcing beam system for highly flexible diaphragms in valves or pressure switches  
[NASA-CASE-XNP-01962] c32 N70-41370
- PRESSURE VESSELS**
- Liquid rocket systems for propulsion and control of spacecraft  
[NASA-CASE-XNP-00610] c28 N70-36910
- Thin walled pressure test vessel using low-melting alloy-filled joint to attach shell to heads  
[NASA-CASE-XLE-04677] c15 N71-10577
- Control of gas flow from pressurized vessel by thermal expansion of metal plug  
[NASA-CASE-NPO-10298] c12 N71-17661
- Method and apparatus for inducing compressive stresses in pressure vessel to prevent stress corrosion  
[NASA-CASE-XLA-07390] c15 N71-18616
- Heater-mixer for stored fluids  
[NASA-CASE-ARC-10442-1] c14 N74-15093
- Method and apparatus for nondestructive testing of pressure vessels  
[NASA-CASE-NPO-12142-1] c38 N76-28563
- PRESSURE WELDING**
- Diffusion welding --- heat treatment of nickel alloys following single step vacuum welding process  
[NASA-CASE-LEW-11388-2] c15 N74-21055
- PRESTRESSING**
- Prestressed rocket nozzle with ceramic inner rings and refractory metal outer rings  
[NASA-CASE-XNP-02888] c18 N71-21068
- PRETREATMENT**
- Anti-wettable materials brazing processes using titanium and zirconium for surface pretreatment  
[NASA-CASE-XMS-03537] c15 N69-21471
- PRINTED CIRCUITS**
- Electrical feedthrough connection for printed circuit boards  
[NASA-CASE-XNP-01483] c14 N69-27431
- Electric connector for printed cable to printed cable or to printed board  
[NASA-CASE-XNP-00369] c09 N70-36494
- Electrical connection for printed circuits on common board, using bellows principle in rivet  
[NASA-CASE-XNP-05082] c15 N70-41960
- Electrical spot terminal assembly for printed circuit boards  
[NASA-CASE-NPO-10034] c15 N71-17685
- Solder coating process for printed copper circuit protection  
[NASA-CASE-XNP-01599] c09 N71-20705
- Handling tool for printed circuit cards  
[NASA-CASE-MFS-20453] c15 N71-29133
- Development and characteristics of polyimide impregnated laminates with fiberglass cloth backing for application as printed circuit boards  
[NASA-CASE-MFS-20408] c18 N73-12604
- Techniques for packaging and mounting printed circuit boards  
[NASA-CASE-MFS-21919-1] c10 N73-25243
- Device for configuring multiple leads --- method for connecting electric leads to printed circuit board  
[NASA-CASE-MFS-22133-1] c15 N74-26977
- Connector --- for connecting circuits on different layers of multilayer printed circuit boards  
[NASA-CASE-LAR-11709-1] c37 N76-27567
- PRINTOUTS**
- Handling tool for printed circuit cards  
[NASA-CASE-MFS-20453] c15 N71-29133
- PRISMS**
- Interferometer prism and control system for precisely determining direction to remote light source  
[NASA-CASE-ARC-10278-1] c14 N73-25463
- PROBES**
- Method and apparatus for connecting two spacecraft with probe of one inserted in rocket engine nozzle of other spacecraft  
[NASA-CASE-MFS-11133] c31 N71-16222
- Development of droplet monitoring probe for use in analysis of droplet propagation in mixed-phase fluid stream  
[NASA-CASE-NPO-10985] c14 N73-20478
- PRODUCT DEVELOPMENT**
- Using molds for fabricating individual fluid circuit components  
[NASA-CASE-XLA-07829] c15 N72-16329
- Process for developing filament reinforced plastic tubes used in research and development programs  
[NASA-CASE-LAR-10203-1] c15 N72-16330
- Simplified technique and device for producing industrial grade synthetic diamonds  
[NASA-CASE-MFS-20698-2] c15 N73-19457
- High power laser apparatus and system  
[NASA-CASE-XLE-2529-2] c36 N75-27364
- Ceramic fiber insulating material and methods of producing same --- product development of foams for thermal insulation  
[NASA-CASE-MSC-14795-1] c27 N76-15314
- PRODUCTION**
- Method of producing I-123  
[NASA-CASE-LEW-11390-4] c72 N76-26967
- PRODUCTION ENGINEERING**
- Standard coupling design for mass production  
[NASA-CASE-XMS-02532] c15 N70-41808
- Fabrication of curved reflector segments for solar mirror  
[NASA-CASE-XLE-08917] c15 N71-15597
- Production of barium fluoride-calcium fluoride composite lubricant for bearings or seals  
[NASA-CASE-XLE-08511-2] c18 N71-16105
- Fabrication of sintered impurity semiconductor brushes for electrical energy transfer  
[NASA-CASE-XNP-01016] c26 N71-17818
- Technique for making foldable, inflatable, plastic honeycomb core panels for use in building and bridge structures, light and radio wave reflectors, and spacecraft  
[NASA-CASE-XLA-03492] c15 N71-22713
- Multilayer porous refractory metal ionizer design with thick, porous, large-grain substrates and thin, porous micron-grain substrates  
[NASA-CASE-XNP-04338] c17 N71-23046
- Permanently magnetized ion engine casing construction for use in spacecraft propulsion systems  
[NASA-CASE-XNP-06942] c28 N71-23293
- Dry electrode design with wire sandwiched between two flexible conductive discs for



- monitoring physiological responses  
[NASA-CASE-PRC-10029] c09 N71-24618
- Production method of star tracking reticles for transmitting in visible and near ultraviolet regions  
[NASA-CASE-GSC-11188-1] c14 N73-32320
- Process for making sheets with parallel pores of uniform size  
[NASA-CASE-GSC-10984-1] c37 N75-26371
- Process for preparing liquid metal electrical contact device --- sputtering to remove metal oxides  
[NASA-CASE-LEW-11978-1] c33 N76-29490
- PROJECTILES**  
Self-obturator gas-operated launcher for launching projectiles in decontaminated medium  
[NASA-CASE-NPO-11013] c11 N72-22247
- Two stage light gas-plasma projectile accelerator  
[NASA-CASE-MPS-22287-1] c75 N76-14931
- PROJECTION**  
Projection system for display of parallax and perspective  
[NASA-CASE-MPS-23194-1] c74 N76-13909
- PROJECTIVE GEOMETRY**  
Projection system for display of parallax and perspective  
[NASA-CASE-MPS-23194-1] c74 N76-13909
- PROJECTORS**  
Optical projector system for establishing optimum arrangement of instrument displays in aircraft, spacecraft, other vehicles, and industrial instrument consoles  
[NASA-CASE-XNP-03853] c23 N71-21882
- PROPAGATION MODES**  
Dual waveguide mode source for controlling amplitudes of two modes  
[NASA-CASE-XNP-03134] c07 N71-10676
- PROPELLANT BINDERS**  
Chemical process for production of polyisobutylene compounds and application as solid rocket propellant binder  
[NASA-CASE-NPO-10893] c27 N73-22710
- PROPELLANT COMBUSTION**  
Spherical solid propellant rocket engine having abrupt burnout  
[NASA-CASE-XHQ-01897] c28 N70-35381
- Rocket combustion chamber stability by controlling transverse instability during propellant combustion  
[NASA-CASE-XLE-04603] c33 N71-21507
- PROPELLANT DECOMPOSITION**  
Unit for generating thrust from catalytic decomposition of hydrogen peroxide, for high altitude aircraft or spacecraft reaction control  
[NASA-CASE-XMS-00583] c28 N70-38504
- PROPELLANT GRAINS**  
Grain configuration for solid propellant rocket engines  
[NASA-CASE-XGS-03556] c27 N70-35534
- PROPELLANT TANKS**  
Liquid rocket systems for propulsion and control of spacecraft  
[NASA-CASE-XNP-00610] c28 N70-36910
- Slosh damping method for liquid rocket propellant tanks  
[NASA-CASE-XNP-00658] c12 N70-38497
- Expulsion and measuring device for determining quantity of liquid in tank under conditions of weightlessness  
[NASA-CASE-XMS-01546] c14 N70-40233
- Collapsible auxiliary tank for restarting liquid propellant rocket motors under zero gravity  
[NASA-CASE-XNP-01390] c28 N70-41275
- Liquid propellant tank design with semitoroidal bulkhead  
[NASA-CASE-XNP-01899] c31 N70-41948
- Microleak detector mounted on weld seam of propellant tank of launch vehicle  
[NASA-CASE-XNP-02307] c14 N71-10779
- Fabrication of filament wound propellant tank for cryogenic storage  
[NASA-CASE-XLE-03803-2] c15 N71-17651
- Slosh and swirl alleviator for liquid propellant tanks during transport and flight  
[NASA-CASE-XLA-05749] c15 N71-19569
- Two phase fluid pressurization system for propellant tank  
[NASA-CASE-HSC-12390] c27 N71-29155
- Space vehicle system  
[NASA-CASE-HSC-12561-1] c18 N76-17185
- PROPELLANT TRANSFER**  
Two component valve assembly for cryogenic liquid transfer regulation  
[NASA-CASE-XLE-00397] c15 N70-36492
- Apparatus for cryogenic liquid storage with heat transfer reduction and for liquid transfer at zero gravity conditions  
[NASA-CASE-XLE-00345] c15 N70-38020
- Continuous variation of propellant flow and thrust by application of liquid foam flow theory to injection orifice  
[NASA-CASE-XLE-00177] c28 N70-40367
- Method and feed system for separating and orienting liquid and vapor phases of liquid propellants in zero gravity environment  
[NASA-CASE-XLE-01182] c27 N71-15635
- Electron bombardment ion rocket engine with improved propellant introduction system  
[NASA-CASE-XLE-02066] c28 N71-15661
- Rocket combustion chamber stability by controlling transverse instability during propellant combustion  
[NASA-CASE-XLE-04603] c33 N71-21507
- Vapor-liquid separator design with vapor driven pump for separated liquid pumping for application in propellant transfer  
[NASA-CASE-XNP-04042] c15 N71-23023
- Pillar valve design for supplying liquid propellants at high pressure to space vehicles  
[NASA-CASE-XNP-01747] c15 N71-23024
- Internal labyrinth and shield structure to improve electrical isolation of propellant feed source from ion thruster  
[NASA-CASE-LEW-10210-1] c28 N71-26781
- Flexible bellows joint shielding sleeve for propellant transfer pipelines  
[NASA-CASE-XNP-01855] c15 N71-28937
- PROPELLER BLADES**  
Directed fluid stream for propeller blade loading control  
[NASA-CASE-XAC-00139] c02 N70-34856
- PROPORTIONAL CONTROL**  
Proportional controller for regulating aircraft or spacecraft motion about three axes  
[NASA-CASE-XAC-03392] c03 N70-41954
- PROPULSION SYSTEM CONFIGURATIONS**  
Electrothermal rocket engine using resistance heated heat exchanger  
[NASA-CASE-XLE-00267] c28 N70-33356
- Grain configuration for solid propellant rocket engines  
[NASA-CASE-XGS-03556] c27 N70-35534
- Shrouded composite propulsion system configuration  
[NASA-CASE-XLA-01043] c28 N71-10780
- Electrostatic microthrust propulsion system with annular slit colloid thruster  
[NASA-CASE-GSC-10709-1] c28 N71-25213
- Method and apparatus for pressurizing propellant tanks used in propulsion motor feed system  
[NASA-CASE-XNP-00650] c27 N71-28929
- PROPULSIVE EFFICIENCY**  
Method and apparatus for improving operating efficiency and reducing low speed noise for turbine aircraft engines  
[NASA-CASE-LAR-11310-1] c28 N73-31699
- PROSTHETIC DEVICES**  
Prosthetic limb with tactile sensing device  
[NASA-CASE-MPS-16570-1] c05 N73-32013
- Orthotic arm joint --- for use in mechanical arms  
[NASA-CASE-MPS-21611-1] c54 N75-12616
- Actuator device for artificial leg  
[NASA-CASE-MPS-23225-1] c54 N75-32767
- Graphite reinforced bone cement  
[NASA-CASE-NPO-13764-1] c24 N76-26281
- An artificial leg employing a mechanical energy storage device for hip disarticulation  
[NASA-CASE-ARC-10916-1] c54 N76-26871
- PROTECTION**  
Camera protecting device for use in photographing rocket engine nozzles or other engine components  
[NASA-CASE-NPO-10174] c14 N71-18465
- Fiber modified polyurethane foam for ballistic protection  
[NASA-CASE-ARC-10714-1] c27 N76-15310
- PROTECTIVE CLOTHING**  
Conditioning tanned sharkskin for use as

- abrasive resistant clothing  
[NASA-CASE-XMS-09691-1] c18 N71-15545
- One piece human garment for use as contamination proof garment  
[NASA-CASE-MSC-12206-1] c05 N71-17599
- Thermoregulating with cooling flow pipe network for humans  
[NASA-CASE-XMS-10269] c05 N71-24147
- Development of improved convolute section for pressurized suits to provide high degree of mobility in response to minimum of applied torque  
[NASA-CASE-XMS-09637-1] c05 N71-24730
- Voice operated receiving and transmitting system for use in protective suits  
[NASA-CASE-KSC-10164] c07 N71-33108
- PROTECTIVE COATINGS**
- Process permitting application of synthetic resin coating to irregular-shaped objects at ambient temperature  
[NASA-CASE-XNP-06508] c18 N69-39895
- Ultraviolet radiation resistant alkali-metal silicate coatings for temperature control of spacecraft  
[NASA-CASE-XGS-04119] c18 N69-39979
- Application techniques for protecting materials during salt bath brazing  
[NASA-CASE-XLE-00046] c15 N70-33311
- Removable potting compound for instrument shock protection  
[NASA-CASE-XLA-00482] c15 N70-36409
- Passive thermal control coating on aluminum foil laminate for inflatable spacecraft surfaces  
[NASA-CASE-XLA-01291] c33 N70-36617
- Using ethylene oxide in preparation of sterilized solid rocket propellants and encapsulating materials  
[NASA-CASE-XNP-01749] c27 N70-41897
- Fireproof potassium silicate coating composition, insoluble in water after application  
[NASA-CASE-GSC-10072] c18 N71-14014
- Development of bacteriostatic conformal coating and methods of application  
[NASA-CASE-GSC-10007] c18 N71-16046
- Vapor deposited laminated nitride-silicon coating for corrosion prevention of carbonaceous surfaces  
[NASA-CASE-XLA-00284] c15 N71-16075
- Flame or plasma spraying for molybdenum coating of carbon or graphite surfaces to prevent oxidative corrosion  
[NASA-CASE-XLA-00302] c15 N71-16077
- Development and characteristics of protective coatings for spacecraft  
[NASA-CASE-XNP-02507] c31 N71-17679
- Development of thermal insulation system for wing and control surfaces of hypersonic aircraft and reentry vehicles  
[NASA-CASE-XLA-00892] c33 N71-17897
- Bismuth and lead surface coatings for gas bearings in aerospace engineering  
[NASA-CASE-XGS-02011] c15 N71-20739
- Composition and production method of alkali metal silicate paint with ultraviolet reflection properties  
[NASA-CASE-XGS-04799] c18 N71-24183
- Method for treating metal surfaces to prevent secondary electron transmission  
[NASA-CASE-XNP-09469] c24 N71-25555
- Development of solid state polymer coating for obtaining thermal balance in spacecraft components  
[NASA-CASE-XLA-01745] c33 N71-28903
- Method for coating through-holes in ceramic substrates used in fabricating miniaturized electronic circuits  
[NASA-CASE-XNP-05999] c15 N71-29032
- Zinc dust formulation for abrasion resistant steel coatings  
[NASA-CASE-GSC-10361-1] c18 N72-23581
- Development of process for constructing protective covers for solar cells  
[NASA-CASE-GSC-11514-1] c03 N72-24037
- Resin for protecting p-n semiconductor junction surface  
[NASA-CASE-ERC-10339-1] c18 N73-30532
- Nonflammable coating compositions --- for use in high oxygen environments
- [NASA-CASE-MPS-20486-2] c18 N74-17283
- Preparation of dielectric coatings of variable dielectric constant by plasma polymerization  
[NASA-CASE-ARC-10892-1] c27 N75-26136
- Abrasion resistant coatings for plastic surfaces  
[NASA-CASE-ARC-10915-1] c27 N76-13292
- Silicon nitride coated, plastic covered solar cell  
[NASA-CASE-LEW-11496-1] c44 N76-14613
- Fused silicide coatings containing discrete particles for protecting niobium alloys --- used in space shuttle thermal protection systems and turbine engine components  
[NASA-CASE-LEW-11179-1] c27 N76-16229
- Thermal barrier coating system  
[NASA-CASE-LEW-12554-1] c24 N76-23359
- Extreme temperature thermal control coating  
[NASA-CASE-LAR-11756-1] c24 N76-26284
- PROTECTORS**
- Load cell protection device using spring-loaded breakaway mechanism  
[NASA-CASE-XMS-06782] c32 N71-15974
- Payload soft landing system using stowable gas bag  
[NASA-CASE-XLA-09881] c31 N71-16085
- PROTEINS**
- Protein sterilization of firefly luciferase without denaturation  
[NASA-CASE-GSC-10225-1] c06 N73-27086
- PROTON FLOX DENSITY**
- Flame detector operable in presence of proton radiation  
[NASA-CASE-MPS-21577-1] c03 N74-29410
- PSEUDONOISE**
- System designed to reduce time required for obtaining synchronization in data communication with spacecraft utilizing pseudonoise codes  
[NASA-CASE-NPO-10214] c10 N71-26577
- Linear shift register with feedback logic for generating pseudonoise linear recurring binary sequences  
[NASA-CASE-NPO-11406] c08 N73-12175
- Multicarrier communications system for transmitting modulated signals from single transmitter  
[NASA-CASE-NPO-11548] c07 N73-26118
- Pseudo-noise test set for communication system evaluation --- test signals  
[NASA-CASE-MPS-22671-1] c35 N75-21582
- Pseudo noise code and data transmission method and apparatus  
[NASA-CASE-GSC-12017-1] c32 N76-16302
- PULLEYS**
- Apparatus for measuring load on cable under static or dynamic conditions comprising pulleys pivoting structure against restraint of tension strap  
[NASA-CASE-XMS-04545] c15 N71-22878
- Tensile strength testing device having pulley guides for exerting multiple forces on test specimen  
[NASA-CASE-XNP-05634] c15 N71-24834
- PULMONARY CIRCULATION**
- Pulmonary resuscitation method and apparatus with adjustable pressure regulator  
[NASA-CASE-XMS-01115] c05 N70-39922
- PULMONARY FUNCTIONS**
- Piston device for producing known constant positive pressure within lungs by using thoracic muscles  
[NASA-CASE-XMS-01615] c05 N70-41329
- PULSE AMPLITUDE**
- Monitoring system for signal amplitude ranges over predetermined time interval  
[NASA-CASE-XMS-04061-1] c09 N69-39885
- Analog to digital converter for converting pulses to frequencies  
[NASA-CASE-XLA-00670] c08 N71-12501
- Electrical testing apparatus for detecting amplitude and width of transient pulse  
[NASA-CASE-XNP-06519] c09 N71-12519
- Analog to digital converter circuit for pulse height analysis  
[NASA-CASE-XNP-00477] c08 N73-28045
- Speech analyzer --- which provides information regarding amplitude, frequency, and phase of a speech waveform  
[NASA-CASE-GSC-11898-1] c32 N75-22563
- PULSE AMPLITUDE MODULATION**
- Voltage controlled oscillators and pulse

- amplitude modulation for signal ratio system  
[NASA-CASE-XMP-04367] c09 N71-23545
- PULSE CODE MODULATION**
  - Adaptive compression signal processor for PCM communication systems  
[NASA-CASE-XLA-03076] c07 N71-11266
  - Bipolar phase detector and corrector for split phase PCM data signals  
[NASA-CASE-XGS-01590] c07 N71-12392
  - System for recording and reproducing PCM data from data stored on magnetic tape  
[NASA-CASE-XGS-01021] c08 N71-21042
  - Frequency shift keying apparatus for use with pulse code modulation data transmission system  
[NASA-CASE-XGS-01537] c07 N71-23405
  - Data reduction and transmission system for TV PCM data  
[NASA-CASE-NPO-11243] c07 N72-20154
  - Pulse code modulated data from frequency multiplex communications by digital phase shift or carrier  
[NASA-CASE-NPO-11338] c08 N72-25208
  - Bit synchronization of PCM communications signal, without separate synchronization channel by digital correlation  
[NASA-CASE-NPO-11302-1] c07 N73-13149
  - Method and apparatus for a single channel digital communications system --- synchronization of received PCM signal by digital correlation with reference signal  
[NASA-CASE-NPO-11302-2] c07 N74-10132
  - Multifunction audio digitizer --- producing direct delta and pulse code modulation  
[NASA-CASE-MSC-13855-1] c07 N74-17885
  - Pulse code modulated signal synchronizer  
[NASA-CASE-MSC-12462-1] c07 N74-20809
  - Pulse code modulated signal synchronizer  
[NASA-CASE-MSC-12494-1] c07 N74-20810
  - Differential pulse code modulation  
[NASA-CASE-MSC-12506-1] c32 N75-19480
  - Digital transmitter for data bus communications system  
[NASA-CASE-MSC-14558-1] c32 N75-21486
  - Compact-bi-phase pulse coded modulation decoder  
[NASA-CASE-KSC-10834-1] c33 N76-14371
  - Low distortion receiver for bi-level baseband PCM waveforms  
[NASA-CASE-MSC-14557-1] c32 N76-16249
- PULSE COMMUNICATION**
  - Phase shift data transmission system with pseudo-noise synchronization code modulated with digital data into single channel for spacecraft communication  
[NASA-CASE-XNP-00911] c08 N70-41961
  - Differential pulse code modulation  
[NASA-CASE-MSC-12506-1] c32 N75-19480
- PULSE DURATION**
  - Frequency to analog converters with unipolar field effect transistor for determining potential charge by pulse duration of input signal  
[NASA-CASE-XNP-07040] c08 N71-12500
  - Electrical testing apparatus for detecting amplitude and width of transient pulse  
[NASA-CASE-XMP-06519] c09 N71-12519
  - Design and development of variable pulse width multiplier  
[NASA-CASE-XLA-02850] c09 N71-20447
  - Device for voltage conversion using controlled pulse widths and arrangements to generate ac output voltage  
[NASA-CASE-MPS-10068] c10 N71-25139
  - One shot multivibrator circuit for producing long duration output pulses  
[NASA-CASE-ARC-10137-1] c09 N71-28468
  - Pulse stretcher for narrow pulses  
[NASA-CASE-MSC-14130-1] c10 N74-32711
- PULSE DURATION MODULATION**
  - Pulse duration modulation multiplier system  
[NASA-CASE-XER-09213] c07 N71-12390
  - Variable duration pulse integrator design for integrating pulse duration modulated pulses with elimination of ripple content  
[NASA-CASE-XLA-01219] c10 N71-23084
  - Electric motor control system with pulse width modulation for providing automatic null seeking servo  
[NASA-CASE-XMP-05195] c10 N71-24861
- Pulse duration control device for driving slow response time loads in selected sequence including switching and delay circuits and magnetic storage  
[NASA-CASE-XGS-04224] c10 N71-26418
- Monostable multivibrator for producing output pulse widths with positive feedback NOR gates  
[NASA-CASE-MSC-13492-1] c10 N71-28860
- Load current sensor for series pulse width modulated power supply  
[NASA-CASE-GSC-10656-1] c09 N72-25249
- PULSE FREQUENCY MODULATION**
  - Electric current measuring apparatus design including saturable core transformer and energy storage device to avoid magnetizing current errors from transformer output winding  
[NASA-CASE-XGS-02439] c14 N71-19431
  - Digitally controlled frequency synthesizer for pulse frequency modulation telemetry systems  
[NASA-CASE-XGS-02317] c09 N71-23525
  - Noninterruptable digital counter circuit design with display device for pulse frequency modulation  
[NASA-CASE-XNP-09759] c08 N71-24891
  - Threshold extension device for improving operating performance of frequency modulation demodulators by eliminating click-type noise impulses  
[NASA-CASE-MSC-12165-1] c07 N71-33696
- PULSE GENERATORS**
  - High voltage pulse generator for testing flash and ignition limits of nonmetallic materials in controlled atmospheres  
[NASA-CASE-MSC-12178-1] c09 N71-13518
  - Interrogator and current driver circuit for combination with transistor flip-flop circuit  
[NASA-CASE-XGS-03058] c10 N71-19547
  - Electric circuit for producing high current pulse having fast rise and fall time  
[NASA-CASE-XMS-04919] c09 N71-23270
  - Pulse generator for synchronizing or resetting electronic signals without requiring separate external source  
[NASA-CASE-XGS-03632] c09 N71-23311
  - Development and characteristics of resettable monostable pulse generator with charge rundown-timing circuit  
[NASA-CASE-GSC-11139] c09 N71-27016
  - Pulse generating circuit for operation at very high duty cycles and repetition rates  
[NASA-CASE-XNP-00745] c10 N71-28960
  - Pulse coupling circuit with switch between generator and winding  
[NASA-CASE-LEW-10433-1] c09 N72-22197
  - Method and apparatus for nondestructive testing --- using high frequency arc discharges  
[NASA-CASE-MPS-21233-1] c23 N74-15395
  - Random pulse generator  
[NASA-CASE-MSC-14131-1] c33 N75-19515
- PULSE RATE**
  - Circuit for measuring wide range of pulse rates by utilizing high capacity counter  
[NASA-CASE-XNP-06234] c10 N71-27137
  - Peak holding circuit for extremely narrow pulses  
[NASA-CASE-MSC-14129-1] c33 N75-18479
- PULSED LASERS**
  - Repetitively pulsed wavelength selective carbon dioxide laser  
[NASA-CASE-ERC-10178] c16 N71-24832
  - Dually mode locked Nd:YAG laser  
[NASA-CASE-GSC-11746-1] c36 N75-19654
- PULSED RADIATION**
  - Development and characteristics of cyclically operable, optical shutter for use as focal plane shutter for transmitting single radiation pulses  
[NASA-CASE-NPO-10758] c14 N73-14427
- PULSES**
  - High resolution radar transmitting system for transmitting optical pulses to targets  
[NASA-CASE-NPO-11426] c07 N73-26119
- PUMP SEALS**
  - Flexible barrier membrane comprising porous substrate and incorporating liquid gallium or indium metal used as sealant barriers for spacecraft walls and pumping liquid propellants  
[NASA-CASE-XNP-08881] c17 N71-28747
  - Spiral groove seal --- for hydraulic rotating shaft

[NASA-CASE-LEW-10326-3] c15 N74-10474

**PUMPS**

Piezoelectric pump for supplying fluid at high frequencies to gyroscope fluid suspension system [NASA-CASE-XNP-05429] c26 N71-21824

Vapor-liquid separator design with vapor driven pump for separated liquid pumping for application in propellant transfer [NASA-CASE-XNP-04042] c15 N71-23023

Automatically reciprocating, high pressure pump for use in spacecraft cryogenic propellants [NASA-CASE-XNP-04731] c15 N71-24042

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[NASA-CASE-NPO-10066] c09 N71-18598
- Binary coded sequential acquisition ranging  
system for distance measurements  
[NASA-CASE-NPO-11194] c08 N72-25209
- Loop transponder for regenerating code of  
mu-type ranging system  
[NASA-CASE-NPO-11707] c07 N73-25161
- Orbital and entry tracking accessory for globes  
--- to provide range requirements for reentry  
vehicles to any landing site  
[NASA-CASE-LAR-10626-1] c14 N74-21015
- RARE EARTH COMPOUNDS**  
Including didymium hydrate in nickel hydroxide  
of positive electrode of storage batteries to  
increase ampere hour capacity  
[NASA-CASE-XGS-03505] c03 N71-10608
- RARE GASES**  
Inert gas metallic vapor laser  
[NASA-CASE-NPO-13449-1] c36 N75-32441
- RAREFIED GASES**  
Magnetically controlled plasma accelerator  
capable of ignition in low density gaseous  
environment  
[NASA-CASE-XLA-00327] c25 N71-29184
- RATES (PER TIME)**  
Apparatus and digital technique for coding rate  
data  
[NASA-CASE-LAR-10128-1] c08 N73-20217
- RC CIRCUITS**  
RC transistor circuit to indicate each pulse of  
pulse train and occurrence of nth pulse  
[NASA-CASE-XNP-00906] c09 N70-41655
- Device utilizing RC rate generators for  
continuous slow speed measurement  
[NASA-CASE-XNP-02966] c10 N71-24863
- Digital data handling circuits for pulse  
amplifiers  
[NASA-CASE-XNP-01068] c10 N71-28739
- Design of active RC network capable of operating  
at high Q values with reduced sensitivity to  
gain amplification and number of passive  
components  
[NASA-CASE-ARC-10042-2] c10 N72-11256
- Active RC filter networks and amplifiers for  
deep space magnetic field measurement  
[NASA-CASE-XAC-05462-2] c10 N72-17171
- RC networks with voltage amplifier, RC input  
circuit, and positive feedback  
[NASA-CASE-ARC-10020] c10 N72-17172
- Multiloop RC active filter network with low  
parameter sensitivity and low amplifier gain  
[NASA-CASE-ARC-10192] c09 N72-21245
- Temperature control system comprised of  
wheatstone bridge with RC circuit  
[NASA-CASE-NPO-11304] c14 N73-26430
- Diode-quad bridge circuit means  
[NASA-CASE-ARC-10364-3] c33 N75-19520
- REACTION CONTROL**  
Development of voice operated controller for  
controlling reaction jets of spacecraft  
[NASA-CASE-XLA-04063] c31 N71-33160
- REACTION WHEELS**  
Satellite stabilization reaction wheel scanner  
[NASA-CASE-XGS-02629] c14 N71-21082
- Gravity gradient attitude control system with  
gravity gradiometer and reaction wheels for  
artificial satellite attitude control  
[NASA-CASE-GSC-10555-1] c21 N71-27324
- REACTIVITY**  
Absorbing gas reactivity control system for  
minimizing power distribution and perturbation  
in nuclear reactors  
[NASA-CASE-XLE-04599] c22 N72-20597
- REACTOR CORES**  
Simulated fuel assembly-type flow measurement  
apparatus for coolant flow in reactor core  
[NASA-CASE-XLE-00724] c14 N70-34669
- Solid state device for mapping flux and power in  
nuclear reactor cores  
[NASA-CASE-XLE-00301] c14 N70-36808
- Reactor heated in-core diodes for energy  
conversion  
[NASA-CASE-NPO-10542] c09 N72-27228
- REACTOR DESIGN**  
Nonequilibrium radiation nuclear reactor  
[NASA-CASE-HQR-10841-1] c73 N75-22108
- REACTOR MATERIALS**  
A zirconium modified nickel-copper alloy  
[NASA-CASE-LEW-12245-1] c26 N75-26087
- REACTOR TECHNOLOGY**  
Nuclear reactor control rod assembly with  
improved driving mechanism  
[NASA-CASE-XLE-00298] c22 N70-34501
- READOUT**  
Flow angle sensor and remote readout system for  
use with cryogenic fluids  
[NASA-CASE-XLE-04503] c14 N71-24864
- System for checking status of several  
double-throw switches by readout indications  
[NASA-CASE-XLA-08799] c10 N71-27272
- REAL TIME OPERATION**  
Respiratory analysis system to determine gas  
flow rate and frequency of respiration and  
expiration cycles in real time  
[NASA-CASE-MSC-13436-1] c05 N73-32015
- Real time moving scene holographic camera system  
[NASA-CASE-MFS-21087-1] c14 N74-17153
- Real time liquid crystal image converter  
[NASA-CASE-LAR-11206-1] c23 N74-30118
- Real time, large volume, moving scene  
holographic camera system  
[NASA-CASE-MFS-22537-1] c35 N75-27328
- Carbon monoxide monitor --- using real time  
operation  
[NASA-CASE-MFS-22060-1] c35 N75-29380
- Real time analysis of voiced sounds  
[NASA-CASE-NPO-13465-1] c32 N76-31372
- RECEIVERS**  
Semiconductor in resonant cavity for improving  
signal to noise ratio of communication receiver  
[NASA-CASE-MSC-12259-1] c07 N70-12616
- Improved phase lock loop for receiver in  
multichannel telemetry system with suppressed  
carrier  
[NASA-CASE-NPO-11593-1] c07 N73-28012
- Automatic carrier acquisition system for phase  
locked loop receiver  
[NASA-CASE-NPO-11628-1] c07 N73-30113
- Coherent receiver employing nonlinear coherence  
detection for carrier tracking  
[NASA-CASE-NPO-11921-1] c07 N74-30523
- Low distortion receiver for bi-level baseband  
PCM waveforms  
[NASA-CASE-MSC-14557-1] c32 N76-16249
- RECONSTRUCTION**  
Method and means for recording and  
reconstructing holograms without use of  
reference beam  
[NASA-CASE-ERC-10020] c16 N71-26154
- RECORDING HEADS**  
Magnetic tape head function switching system  
[NASA-CASE-GSC-11956-1] c35 N75-25134
- RECORDING INSTRUMENTS**  
Weighing and recording device for obtaining  
precise automatic record of small changes in  
force  
[NASA-CASE-XLA-02605] c14 N71-10773
- Blood pressure measuring system for separately  
recording dc and ac pressure signals of  
Korotkoff sounds  
[NASA-CASE-XMS-06061] c05 N71-23317
- Helical recorder for multiple channel recording  
[NASA-CASE-GSC-10614-1] c09 N72-11224
- Thermomagnetic recording and magneto-optic  
playback system having constant intensity  
laser beam control  
[NASA-CASE-NPO-11317-2] c16 N74-13205
- Holography utilizing surface plasmon resonances  
[NASA-CASE-MFS-22040-1] c14 N74-26946
- Measuring probe position recorder  
[NASA-CASE-LAR-10806-1] c14 N74-32877



**RECOVERABILITY**

Ejectable underwater sound source recovery assembly  
[NASA-CASE-LAR-10595-1] c15 N74-16135

**RECOVERABLE LAUNCH VEHICLES**

Techniques for recovery of multistage rocket vehicles by providing lifting surfaces on individual sections  
[NASA-CASE-XMF-00389] c31 N70-34176

**RECOVERABLE SPACECRAFT**

Describing assembly for opening stabilizing and decelerating flaps of flight capsules used in space research  
[NASA-CASE-XMF-03169] c31 N71-15675

**RECOVERY PARACHUTES**

Parachute system for lowering manned spacecraft from post-reentry to ocean landing  
[NASA-CASE-XLA-00195] c02 N70-38009  
Development and operating principles of gas generator for deploying recovery parachutes from space capsules during atmospheric entry  
[NASA-CASE-LAR-10549-1] c31 N73-13898

**RECTANGULAR PANELS**

Rectangular solar cell stacked panels to generate electrical power aboard spacecraft  
[NASA-CASE-NPO-11771] c03 N73-20040

**RECTIFIERS**

Lithium drifted silicon radiation detector with gold rectifying contacts  
[NASA-CASE-XLE-10529] c14 N69-23191  
Power control switching circuit using low voltage semiconductor controlled rectifiers for high voltage isolation  
[NASA-CASE-XNP-02713] c10 N69-39888  
Precision full wave rectifier circuit for rectifying incoming electrical signals having positive or negative polarity with only positive output signals  
[NASA-CASE-ARC-10101-1] c09 N71-33109  
Voltage amplitude-responsive trigger circuit with silicon controlled rectifier  
[NASA-CASE-GSC-10221-1] c09 N72-23171  
Dc to ac to dc converter with transistor driven synchronous rectifiers  
[NASA-CASE-GSC-11126-1] c09 N72-25253

**RECTUM**

A cervix-to-rectum measuring device in a radiation applicator for use in the treatment of cervical cancer  
[NASA-CASE-GSC-12081-1] c52 N76-22890

**REDUCED GRAVITY**

Reduced gravity liquid configuration simulator to study propellant behavior in rocket fuel tanks  
[NASA-CASE-XLE-02624] c12 N69-39988  
Apparatus for measuring human body mass in zero or reduced gravity environment  
[NASA-CASE-XMS-03371] c05 N70-42000  
Cable suspension and inclined walkway system for simulating reduced or zero gravity environments  
[NASA-CASE-XLA-01787] c11 N71-16028  
Development of restraint system for securing personnel to ergometer while exercising under weightless conditions  
[NASA-CASE-MFS-21046-1] c14 N73-27377

**REDUCTION (CHEMISTRY)**

Producing metal powders of controlled particle size by reducing oxide using reactive metal vapor in vacuum  
[NASA-CASE-XLE-06461] c17 N72-22530  
Process for making anhydrous metal halides  
[NASA-CASE-LEW-11860-1] c37 N76-18458

**REDUNDANT COMPONENTS**

Redundant memory for enhanced reliability of digital data processing system  
[NASA-CASE-GSC-10564] c10 N71-29135

**REELS**

Method and apparatus for measuring web material wound on a reel  
[NASA-CASE-GSC-11902-1] c35 N75-22687  
Reel safety brake  
[NASA-CASE-GSC-11960-1] c37 N76-13495

**REENTRY COMMUNICATION**

Electrostatic modulator for communicating through plasma sheath formed around spacecraft during reentry  
[NASA-CASE-XLA-01400] c07 N70-41331  
Method and apparatus for communicating through ionized layer of gases surrounding spacecraft

during reentry into planetary atmospheres  
[NASA-CASE-XLA-01127] c07 N70-41372  
Reentry communication by injection of water droplets into plasma layer surrounding space vehicle  
[NASA-CASE-XLA-01552] c07 N71-11284

**REENTRY SHIELDING**

Transpirationally cooled heat ablation system for interplanetary spacecraft reentry shielding  
[NASA-CASE-XMS-02677] c31 N70-42075  
Method and apparatus for fabrication of heat insulating and ablative reentry structure  
[NASA-CASE-XMS-02009] c33 N71-20834  
Ablative heat shield for protection from aerodynamic heating of reentry spacecraft  
[NASA-CASE-MSC-12143-1] c33 N72-17947  
Protected isotope heat source --- for atmospheric reentry protection and heat transmission to spacecraft  
[NASA-CASE-LEW-11227-1] c73 N75-30876

**REENTRY TRAJECTORIES**

Aerodynamic configuration of reentry vehicle heat shield to provide longitudinal and directional stability at hypersonic velocities  
[NASA-CASE-XMS-04142] c31 N70-41631

**REENTRY VEHICLES**

Leading edge design for hypersonic reentry vehicles  
[NASA-CASE-XLA-00165] c31 N70-33242  
Delta winged, manned reentry vehicle capable of horizontal glide landing at low speeds  
[NASA-CASE-XLA-00241] c31 N70-37986  
Telespectrograph for analyzing upper atmosphere by tracking bodies reentering atmosphere at high velocities  
[NASA-CASE-XLA-03273] c14 N71-18699  
Ablation sensor for measuring surface ablation rate of material on vehicles entering earths atmosphere on entry into planetary atmospheres  
[NASA-CASE-XLA-01791] c14 N71-22991  
Design of ring wing vehicle of high drag-to-weight ratio to withstand reentry stress into low density atmosphere  
[NASA-CASE-XLA-04901] c31 N71-24315  
Development of auxiliary lifting system to provide ferry capability for entry vehicles  
[NASA-CASE-LAR-10574-1] c11 N73-13257  
Development and operating principles of gas generator for deploying recovery parachutes from space capsules during atmospheric entry  
[NASA-CASE-LAR-10549-1] c31 N73-13898  
Three-component ceramic coating for silica insulation  
[NASA-CASE-MSC-14270-2] c27 N76-23426

**REFERENCE SYSTEMS**

Automatic frequency control device for providing frequency reference for voltage controlled oscillator  
[NASA-CASE-KSC-10393] c09 N72-21247  
Magnetic heading reference  
[NASA-CASE-LAR-11387-2] c04 N76-26180

**REFINING**

Helium refining by superfluidity  
[NASA-CASE-XNP-00733] c06 N70-34946

**REFLECTANCE**

Optical characteristics measuring apparatus  
[NASA-CASE-XNP-08840] c23 N71-16365  
Device for determining acceleration of gravity by interferometric measurement of travel of falling body  
[NASA-CASE-XMF-05844] c14 N71-17587  
Highly stable optical mirror assembly optimizing image quality of light diffraction patterns  
[NASA-CASE-ERC-10001] c23 N71-24868  
Transmitting and reflecting diffuser  
[NASA-CASE-LAR-10385-3] c23 N73-32538

**REFLECTED WAVES**

Device and method for determining X ray reflection efficiency, scattering properties, and surface finish of optical surfaces  
[NASA-CASE-MFS-20243] c23 N73-13662  
Clear air turbulence detector  
[NASA-CASE-MFS-21244-1] c36 N75-15028  
Reflected-wave maser --- low noise amplifier  
[NASA-CASE-NPO-13490-1] c36 N76-31512

**REFLECTION**

Vacuum preparation of zinc titanate pigment resistant to loss of reflective properties  
[NASA-CASE-MFS-13532] c18 N72-17532

- Solar cell surface treatment  
[NASA-CASE-LEW-11330-1] c44 N76-14612
- Method and apparatus for compensating reflection losses in a path length modulated absorption-absorption trace gas detector --- for determining density of gas  
[NASA-CASE-ARC-10631-1] c74 N76-20958
- REFLECTOMETERS**
- Ellipsoidal mirror reflector for measuring reflectance  
[NASA-CASE-XGS-05291] c23 N71-16341
- Real time reflectometer  
[NASA-CASE-MFS-23118-1] c35 N76-26446
- REFLECTORS**
- Method of compactly packaging centrifugally expandable lightweight flexible reflector satellite  
[NASA-CASE-XLA-00138] c31 N70-37981
- Antenna design with self erecting mesh reflector  
[NASA-CASE-XGS-09190] c31 N71-16102
- Cylindrical reflector for resolving wide angle light beam from telescope into narrow beam for spectroscopic analysis  
[NASA-CASE-XGS-08269] c23 N71-26206
- Conical reflector antenna with feed approximating line source  
[NASA-CASE-NPO-10303] c07 N72-22127
- Target acquisition antenna feed with reflector system  
[NASA-CASE-GSC-10064-1] c10 N72-22235
- Multipurpose microwave antenna, employing dish reflector with plural coaxial horn feeds  
[NASA-CASE-NPO-11264] c07 N72-25174
- Characteristics of microwave antenna with conical reflectors to generate plane wave front  
[NASA-CASE-NPO-11661] c07 N73-14130
- Schlieren system employing antiparallel reflector in the forward direction  
[NASA-CASE-ARC-10971-1] c09 N76-26224
- REFRACTOMETERS**
- Particle size spectrometer and refractometer  
[NASA-CASE-NPO-13614-1] c35 N75-19628
- REFRACTORY MATERIALS**
- Test apparatus for determining mechanical properties of refractory materials at high temperatures in vacuum or inert atmospheres  
[NASA-CASE-XLE-00335] c14 N70-35368
- Method for producing refractory molybdenum disilicides  
[NASA-CASE-XMS-00370] c17 N71-20941
- Prestressed rocket nozzle with ceramic inner rings and refractory metal outer rings  
[NASA-CASE-XNP-02888] c18 N71-21068
- Semiconductor device manufacture using refractory dielectrics as diffusant masks and interconnection insulating materials  
[NASA-CASE-XER-08476-1] c26 N72-17820
- Electric furnace for vacuum and zero gravity melting of high melting point materials during earth orbit  
[NASA-CASE-MFS-20710] c11 N72-23215
- Catalytic trimerization of aromatic nitriles and triaryl-s-triazine ring cross-linked high temperature resistant polymers and copolymers made thereby  
[NASA-CASE-LEW-12053-1] c06 N74-34579
- REFRACTORY METALS**
- Refractory filament series circuitry for radiant heater  
[NASA-CASE-XLE-00387] c33 N70-34812
- Production of refractory bodies with controlled porosity by pressing and heating mixtures of refractory and inert metal powders  
[NASA-CASE-LEW-10393-1] c17 N71-15468
- Multilayer porous refractory metal ionizer design with thick, porous, large-grain substrates and thin, porous micron-grain substrates  
[NASA-CASE-XNP-04338] c17 N71-23046
- Brazing alloy adapted for brazing corrosion resistant steel to refractory metals, also for brazing refractory metals to other refractory metals  
[NASA-CASE-XNP-03063] c17 N71-23365
- Development and characteristics of thermal radiation shielding of refractory metal foil used for induction furnace  
[NASA-CASE-XLE-03432] c33 N71-24145
- Production of high strength refractory compounds and microconstituents into refractory metal matrix  
[NASA-CASE-XLE-03940] c18 N71-26153
- Silicide coating process and composition for protection of refractory metals from oxidation  
[NASA-CASE-XLE-10910] c18 N71-29040
- Development of procedure for improved distribution of refractory compounds and micro-constituents in refractory metal matrix  
[NASA-CASE-XLE-03940-2] c17 N72-28536
- Fused silicide coatings containing discrete particles for protecting niobium alloys --- used in space shuttle thermal protection systems and turbine engine components  
[NASA-CASE-LEW-11179-1] c27 N76-16229
- Method of making an apertured casting --- using duplicate mold  
[NASA-CASE-LEW-11169-1] c37 N76-23570
- REFRIGERATING**
- Heat exchanger and decontamination system for multistage refrigeration unit  
[NASA-CASE-NPO-10634] c23 N72-25619
- REFRIGERATING MACHINERY**
- Gas balancing, cryogenic refrigeration apparatus with Joule-Thomson valve assembly  
[NASA-CASE-NPO-10309] c15 N69-23190
- Method and apparatus for producing very low temperature refrigeration based on gas pressure balance  
[NASA-CASE-XNP-08877] c15 N71-23025
- Dual solid cryogens for spacecraft refrigeration insuring low temperature cooling for extended periods  
[NASA-CASE-GSC-10188-1] c23 N71-24725
- Stirling cycle engine and refrigeration systems  
[NASA-CASE-NPO-13613-1] c37 N76-29590
- REFRIGERATORS**
- Intermittent type silica gel adsorption refrigerator for providing temperature control for spacecraft components  
[NASA-CASE-XNP-00920] c15 N71-15906
- Helium refrigerator  
[NASA-CASE-NPO-13435-1] c31 N76-14284
- REGENERATION (ENGINEERING)**
- Switching circuit with regeneratively connected transistors eliminating power consumption when not in use  
[NASA-CASE-XNP-02654] c10 N70-42032
- Direct current electromotive system for regenerative braking of electric motor  
[NASA-CASE-XNP-01096] c10 N71-16030
- REGENERATIVE COOLING**
- Metal ribbon wrapped outer wall for regeneratively cooled combustion chamber  
[NASA-CASE-XLE-00164] c15 N70-36411
- Fabrication method for lightweight regeneratively cooled combustion chamber of channel construction  
[NASA-CASE-XLE-00150] c28 N70-41818
- Regenerative cooling system for small rocket engine having restart capability and using noncryogenic hypergolic propellants  
[NASA-CASE-XLE-00685] c28 N70-41992
- Regenerative cooling system for rocket combustion chamber using coolant tubes in convergent-divergent nozzle  
[NASA-CASE-XLE-04857] c28 N71-23968
- Thermocouple apparatus for measuring wall temperatures in regeneratively cooled rocket engines having thin walled cooling passages  
[NASA-CASE-XLE-05230-2] c14 N73-13417
- REGENERATIVE FUEL CELLS**
- Electrolytically regenerative hydrogen-oxygen fuel cells  
[NASA-CASE-XLE-04526] c03 N71-11052
- REGENERATORS**
- Loop transponder for regenerating code of nu-type ranging system  
[NASA-CASE-NPO-11707] c07 N73-25161
- REGISTERS (COMPUTERS)**
- Data processor with plural register stages for selectively interconnecting with each other to effect multiplicity of operations  
[NASA-CASE-GSC-10186] c08 N71-33110
- Priority interrupt system --- comprised of four registers  
[NASA-CASE-NPO-13067-1] c60 N76-18800

**REINFORCED PLASTICS**

Process for developing filament reinforced plastic tubes used in research and development programs

[NASA-CASE-LAR-10203-1] c15 N72-16330

Reinforced structural plastics

[NASA-CASE-LEW-10199-1] c18 N74-23125

**REINFORCEMENT (STRUCTURES)**

Reinforcing beam system for highly flexible diaphragms in valves or pressure switches

[NASA-CASE-XNP-01962] c32 N70-41370

Pabrication of light weight panel structure using pairs of elongate hollow ribs of semicircular configuration

[NASA-CASE-LAR-11052-1] c32 N73-13929

**REINFORCING FIBERS**

High strength reinforced metallic composites for applications over wide temperature range

[NASA-CASE-XLE-02428] c17 N70-33288

Method for producing fiber reinforced metallic composites with high strength and elasticity over wide temperature range

[NASA-CASE-XLE-00231] c17 N70-38198

Description of method for producing metallic composites reinforced with ceramic and refractory hard metals that are fibered in place

[NASA-CASE-XLE-03925] c18 N71-22894

Production and application of sprayable fiber reinforced ablation material

[NASA-CASE-XLA-04251] c18 N71-26100

Method of preparing graphite reinforced aluminum composite

[NASA-CASE-MPS-21077-1] c24 N75-28135

Improved method of making reinforced composite structures

[NASA-CASE-LEW-12619-1] c24 N76-16181

**RELAXATION OSCILLATORS**

Voltage controlled, variable frequency relaxation oscillator with MOSFET variable current feed

[NASA-CASE-GSC-10022-1] c10 N71-25882

**RELAY SATELLITES**

Earth satellite relay station for frequency

multiplexed voice transmission

[NASA-CASE-GSC-10118-1] c07 N71-24621

**RELEASING**

Bolt-latch mechanism for releasing despin weights from space vehicle

[NASA-CASE-XLA-00679] c15 N70-38601

Quick-release coupling for fueling rocket vehicles with cryogenic propellants

[NASA-CASE-XKS-01985] c15 N71-10782

Design and development of release mechanism for spacecraft components, releasable despin weights, and extensible gravity booms

[NASA-CASE-XGS-08718] c15 N71-24600

Pneumatic mechanism for releasing hook and loop fasteners between large rigid structures

[NASA-CASE-XMS-10660-1] c15 N71-25975

Delayed simultaneous appendage release mechanism for use on spacecraft equipped with despin mechanisms and releasable components

[NASA-CASE-GSC-10814-1] c03 N73-20039

**RELIABILITY ANALYSIS**

Development of computer program for estimating reliability of self-repair and fault-tolerant systems with respect to selected system and mission parameters

[NASA-CASE-NPO-13086-1] c15 N73-12495

**RELIABILITY ENGINEERING**

Improving load capacity and fatigue life of rolling element systems in rockets and missiles

[NASA-CASE-XLE-02999] c15 N71-16052

Gage for quality control of sealing surfaces of threaded boss

[NASA-CASE-XMP-04966] c14 N71-17658

Reliability of automatic refilling valving device for cryogenic liquid systems

[NASA-CASE-NPO-11177] c15 N72-17453

Reliability of electrical connectors after heat sterilization

[NASA-CASE-NPO-10694] c09 N72-20200

Reliable electrical element heater using plural wire system and backup power sources

[NASA-CASE-MPS-21462-1] c09 N74-14935

Hollow rolling element bearings

[NASA-CASE-LEW-11087-3] c15 N74-21064

**RELIEF VALVES**

Relief valve to permit slow and fast bleeding

rates at difference pressure levels

[NASA-CASE-XMS-05894-1] c15 N69-21924

Describing apparatus for separating gas from cryogenic liquid under zero gravity and for venting gas from fuel tank

[NASA-CASE-XLE-00586] c15 N71-15968

Redundant hydraulic control system for actuators with three main valve combination

[NASA-CASE-MPS-20944] c15 N73-13466

**REMANENCE**

Magnetometer --- for determining magnetic remanence and magnetic fields

[NASA-CASE-LAR-11617-1] c35 N75-33370

**REMOTE CONTROL**

Oscillatory electromagnetic mirror drive system for horizon scanners

[NASA-CASE-XLA-03724] c14 N69-27461

Stage separation using remote control release of joint with explosive insert

[NASA-CASE-XLA-02854] c15 N69-27490

Power controlled bimetallic electromechanical actuator for accurate, timely, and reliable response to remote control signal

[NASA-CASE-XNP-09776] c09 N69-39929

Controlled caging and uncaging mechanism for remote instrument control

[NASA-CASE-GSC-11063-1] c03 N70-35584

Two component valve assembly for cryogenic liquid transfer regulation

[NASA-CASE-XLE-00397] c15 N70-36492

Remotely actuated quick disconnect mechanism for umbilical cables

[NASA-CASE-XLA-00711] c03 N71-12258

Remotely actuated quick disconnect for tubular umbilical conduits used to transfer fluids from ground to rocket vehicle

[NASA-CASE-XLA-01396] c03 N71-12259

Remote control device operated by movement of finger tips for manual control of spacecraft attitude

[NASA-CASE-XAC-02405] c09 N71-16089

Satellite radio communication system with remote steerable antenna

[NASA-CASE-XNP-02389] c07 N71-28900

Laser beam projector for continuous, precise alignment between target, laser generator, and astronomical telescope during tracking

[NASA-CASE-NPO-11087] c23 N71-29125

Solid state remote circuit selector switching circuit

[NASA-CASE-LEW-10387] c09 N72-22201

Design and development of multichannel laser remote control system using modulated helium-neon laser as transmitter and light collector as receiving antenna

[NASA-CASE-LAR-10311-1] c16 N73-16536

Cooperative multi-axis sensor for teleoperation of article manipulating apparatus

[NASA-CASE-NPO-13386-1] c54 N75-27758

Remotely operable articulated manipulator

[NASA-CASE-MPS-22707-1] c37 N76-15457

Remote manipulator system

[NASA-CASE-MPS-22022-1] c37 N76-15460

**REMOTE HANDLING**

Manipulator for remote handling in zero gravity environment

[NASA-CASE-MPS-14405] c15 N72-28495

Apparatus for remote handling of materials --- mixing or analyzing dangerous chemicals

[NASA-CASE-LAR-10634-1] c15 N74-18123

**REMOTE SENSORS**

Passive optical wind and turbulence remote detection system

[NASA-CASE-XNP-14032] c20 N71-16340

Ionization control system design for monitoring separately located ion gage pressures on vacuum chambers

[NASA-CASE-XLE-00787] c14 N71-21090

Flow angle sensor and remote readout system for use with cryogenic fluids

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[NASA-CASE-NPO-10143] c10 N71-26326

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[NASA-CASE-ERC-10081] c14 N72-28437

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- ROTATING CYLINDERS**
- Emergency descent device [NASA-CASE-MPS-23074-1] c54 N76-13770
- ROTATING DISKS**
- Poil seal between parts moving relative to each other [NASA-CASE-XLE-05130] c15 N69-21362
- Rocket-borne aspect sensor consisting of radiation sensor, apertured disk, commutator, and counting circuits [NASA-CASE-XGS-08266] c14 N69-27432
- ROTATING ELECTRICAL MACHINES**
- Modulating and controlling intensity of light beam from high temperature source by servocontrolled rotating cylinders [NASA-CASE-XMS-04300] c09 N71-19479
- Design and development of electric motor with stationary field and armature windings which operates on direct current [NASA-CASE-XGS-05290] c09 N71-25999
- Double-induction variable speed system for constant-frequency electrical power generation [NASA-CASE-ERC-10065] c09 N71-27364
- ROTATING ENVIRONMENTS**
- Radial module manned space station with artificial gravity environment [NASA-CASE-XMS-01906] c31 N70-41373
- Artificial gravity system for simulating self-locomotion capability of astronauts in rotating environments [NASA-CASE-XLA-03127] c11 N71-10776
- ROTATING GENERATORS**
- Rotating raster generator [NASA-CASE-FRC-10071-1] c07 N74-20813
- ROTATING MIRRORS**
- Optical retrodirective modulator with focus spoiling reflector driven by modulation signal [NASA-CASE-GSC-10062] c14 N71-15605
- Attitude sensor with scanning mirrors for detecting orientation of space vehicle with respect to planet [NASA-CASE-XLA-00793] c21 N71-22880
- Optical device containing rotatable prism and reflecting mirror for generating precise angles [NASA-CASE-XGS-04173] c19 N71-26674
- Method and apparatus for optically monitoring the angular position of a rotating mirror [NASA-CASE-GSC-11353-1] c23 N74-21304
- ROTATING SHAFTS**
- Fluid seal formed by flexible disk on rotating shaft to retain lubricating oils around shaft [NASA-CASE-XLE-05130-2] c15 N71-19570
- Anemometer with braking mechanism to prevent rotation of wind driven elements

[NASA-CASE-XMP-05224] c14 N71-23726  
Electromagnetic braking arrangement for  
controlling rotor rotation in electric motor  
[NASA-CASE-XNP-06936] c15 N71-24695  
Liquid-vapor interface seal design for turbine  
rotating shafts including helical and  
molecular pumps and liquid cooling of mercury  
vapor  
[NASA-CASE-XNP-02862-1] c15 N71-26294  
Combination guide and rotary bearing for freely  
moving shaft  
[NASA-CASE-XLA-00013] c15 N71-29136  
Development of Hall effect transducer for  
converting mechanical shaft rotations into  
proportional electrical signals  
[NASA-CASE-LAR-10620-1] c09 N72-25255  
Development of optical system for detecting  
defective components in rotating machinery  
with emphasis on bearing assemblies  
[NASA-CASE-KSC-10752-1] c15 N73-27407  
Spiral groove seal --- for rotating shaft  
[NASA-CASE-XLE-10326-4] c15 N74-15125  
Digital servo controller --- for rotating  
antenna shaft  
[NASA-CASE-KSC-10769-1] c09 N74-29556  
Solid medium thermal engine  
[NASA-CASE-ARC-10461-1] c33 N74-33379  
Ergometer calibrator --- for any ergometer  
utilizing rotating shaft  
[NASA-CASE-MFS-21045-1] c35 N75-15932  
Cyclical bi-directional rotary actuator  
[NASA-CASE-GSC-11883-1] c37 N75-29430  
Tachometer  
[NASA-CASE-MFS-23175-1] c35 N76-19409  
Fluid seal for rotating shafts  
[NASA-CASE-LEW-11676-1] c37 N76-22541

**ROTATION**  
Semilinear bearing comprising two rows of roller  
bearings separated by spherical bearings and  
permitting rotational and translational movement  
[NASA-CASE-XLA-02809] c15 N71-22982  
Mechanical actuator wherein linear motion  
changes to rotational motion  
[NASA-CASE-XGS-04548] c15 N71-24045  
Positioning mechanism for converting translatory  
motion into rotary motion  
[NASA-CASE-NPO-10679] c15 N72-21462

**ROTOR BLADES (TURBOMACHINERY)**  
Locking device for retaining turbine rotor  
blades on turbine wheel  
[NASA-CASE-XNP-00816] c28 N71-28928  
Blade vibration damping pins for turbomachinery  
[NASA-CASE-XLE-00155] c28 N71-29154  
Apparatus for welding blades to rotors  
[NASA-CASE-LEW-10533-2] c15 N74-11300  
Supersonic fan blading --- noise reduction in  
turbofan engines  
[NASA-CASE-LEW-11402-1] c28 N74-28226

**ROTOR SPEED**  
Brushless dc tachometer design with Hall effect  
crystals and output voltage magnitude  
proportional to rotor speed  
[NASA-CASE-MFS-20385] c09 N71-24904

**ROTORS**  
Multistage, multiple reentry, single rotor,  
axial flow turbine  
[NASA-CASE-XLE-00085] c28 N70-39895  
Describing angular position and velocity sensing  
apparatus  
[NASA-CASE-XGS-05680] c14 N71-17585  
Microwave waveguide switch with rotor position  
control  
[NASA-CASE-XNP-06507] c09 N71-23548  
Electromagnetic braking arrangement for  
controlling rotor rotation in electric motor  
[NASA-CASE-XNP-06936] c15 N71-24695  
Rotary vane attenuator with two stators and  
intermediary rotor, using resistive and  
orthogonally disposed cards  
[NASA-CASE-NPO-11418-1] c14 N73-13420  
Process for welding compressor and turbine  
blades to rotors and discs of jet engines  
[NASA-CASE-LEW-10533-1] c15 N73-28515  
Liquid metal slip ring  
[NASA-CASE-LEW-12277-1] c33 N76-28472

**RUBBER**  
Rubber composition for expulsion bladders and  
diaphragms for use with hydrazine  
[NASA-CASE-NPO-11433] c18 N71-31140

**RUBBER COATINGS**  
Intumescent paint containing nitrile rubber for  
fire protection  
[NASA-CASE-ARC-10196-1] c18 N73-13562

**RUBY**  
Bonding of sapphire to sapphire by eutectic  
mixture of aluminum oxide and zirconium oxide  
[NASA-CASE-GSC-11577-1] c37 N75-15992  
Bonding of sapphire to sapphire by eutectic  
mixture of aluminum oxide and zirconium oxide  
[NASA-CASE-GSC-11577-3] c24 N76-19234

**RUBY LASERS**  
Cooling and radiation protection of ruby lasers  
using copper sulfate solution in alcohol  
[NASA-CASE-MFS-20180] c16 N72-12440

**RUNWAY ALIGNMENT**  
Magnetic method for detection of aircraft  
position relative to runway  
[NASA-CASE-ARC-10179-1] c21 N72-22619

**RUNWAY LIGHTS**  
Retractable runway lights  
[NASA-CASE-XLA-00119] c11 N70-33329

**RUPPURING**  
Knife structure for controlling rupture of shock  
tube diaphragms  
[NASA-CASE-XAC-00731] c11 N71-15960

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**SAFETY DEVICES**  
Helmet and torso tiedown mechanism for  
shortening pressure suits upon inflation  
[NASA-CASE-XMS-00784] c05 N71-12335  
Positive locking check valve for stopping  
reversed flow  
[NASA-CASE-XMS-09310] c15 N71-22706  
Description of protective device for providing  
safe operating conditions around work piece in  
machine or metal working tool  
[NASA-CASE-XLE-01092] c15 N71-22797  
Velocity limiting safety system for motor driven  
research vehicle  
[NASA-CASE-XLA-07473] c15 N71-24895  
Device for generating and controlling combustion  
products for testing of fire detection system  
[NASA-CASE-GSC-11095-1] c14 N72-10375  
Restraint torso for increased mobility and  
reduced physiological effects while wearing  
pressurized suits  
[NASA-CASE-MSC-12397-1] c05 N72-25119  
Totally confined explosive welding --- apparatus  
to reduce noise level and protect personnel  
during explosive bonding  
[NASA-CASE-LAR-10941-1] c15 N74-21057  
Deployable flexible ventral fins for use as an  
emergency spin recovery device in aircraft  
[NASA-CASE-LAR-10753-1] c02 N74-30421  
Shoulder harness and lap belt restraint system  
[NASA-CASE-ARC-10519-2] c05 N75-25915  
Ion beam thruster shield  
[NASA-CASE-LEW-12082-1] c20 N75-32166

**SAHA EQUATIONS**  
Cosmic dust analyzer  
[NASA-CASE-MSC-13802-2] c35 N76-15431

**SALT BATHS**  
Application techniques for protecting materials  
during salt bath brazing  
[NASA-CASE-XLE-00046] c15 N70-33311

**SAMARIUM**  
Gadolinium or samarium doped-silicon  
semiconductor material with resistance to  
radiation damage for use in solar cells  
[NASA-CASE-XLE-10715] c26 N71-23292

**SAMPLERS**  
Portable vacuum probe surface sampler for  
sampling large surface areas with relatively  
light loading densities of microorganisms  
[NASA-CASE-LAR-10623-1] c14 N73-30395

**SAMPLING**  
Impact bit for cutting, collecting, and storing  
samples such as lunar rock cuttings  
[NASA-CASE-XNP-01412] c15 N70-42034  
Design and development of fluid sample collector  
[NASA-CASE-XMS-06767-1] c14 N71-20435  
Design and development of two types of  
atmosphere sampling chambers  
[NASA-CASE-NPO-11373] c13 N72-25323  
Digital to analog converter for sampled signal  
reconstruction



- [NASA-CASE-MSC-12458-1] c08 N73-32081  
Rock sampling --- apparatus for controlling particle size  
[NASA-CASE-XNP-10007-1] c15 N74-23068  
Rock sampling --- method for controlling particle size distribution  
[NASA-CASE-XNP-09755] c15 N74-23069  
Apparatus for microbiological sampling --- including automatic swabbing  
[NASA-CASE-LAR-11069-1] c35 N75-12272  
Automatic biowaste sampling  
[NASA-CASE-MSC-14640-1] c54 N76-14804
- SANDWICH STRUCTURES**  
Sandwich panel structure for removing heat from shield between hot and cold areas  
[NASA-CASE-XLA-00349] c33 N70-37979  
Particle detector for measuring micrometeoroid velocity in space  
[NASA-CASE-XLA-00495] c14 N70-41332  
Capacitor sandwich structure containing metal sheets of known thickness for counting penetration rates of meteoroids  
[NASA-CASE-XLE-01246] c14 N71-10797  
Technique for making foldable, inflatable, plastic honeycomb core panels for use in building and bridge structures, light and radio wave reflectors, and spacecraft  
[NASA-CASE-XLA-03492] c15 N71-22713  
Punch and die device for forming convolution series in thin gage metal hemispheres  
[NASA-CASE-XNP-05297] c15 N71-23811
- SAPPHIRE**  
Bonding of sapphire to sapphire by eutectic mixture of aluminum oxide and zirconium oxide  
[NASA-CASE-GSC-11577-1] c37 N75-15992  
Bonding of sapphire to sapphire by eutectic mixture of aluminum oxide and zirconium oxide  
[NASA-CASE-GSC-11577-3] c24 N76-19234
- SATELLITE ANTENNAS**  
Monopole antenna system for maximum omnidirectional efficiency for use on satellites  
[NASA-CASE-XLA-00414] c07 N70-38200  
Development of antenna system for spin stabilized communication satellite for simultaneous reception and transmission of data  
[NASA-CASE-XGS-02607] c31 N71-23009
- SATELLITE ATTITUDE CONTROL**  
Photosensitive light source device for detecting unmanned spacecraft deviation from reference attitude  
[NASA-CASE-XNP-00438] c21 N70-35089  
Attitude control system for spacecraft based on conversion of incident solar radiation on movable control surfaces into mechanical torques  
[NASA-CASE-XNP-02982] c31 N70-41855  
Design and development of satellite despin device  
[NASA-CASE-XNP-08523] c31 N71-20396  
Utilization of momentum devices for forming attitude control and damping system for spacecraft  
[NASA-CASE-XLA-02551] c21 N71-21708  
Gravity gradient attitude control system with gravity gradiometer and reaction wheels for artificial satellite attitude control  
[NASA-CASE-GSC-10555-1] c21 N71-27324  
Method and apparatus for providing active attitude control for spacecraft by converting any attitude motion of vehicle into simple rotational motion  
[NASA-CASE-HQN-10439] c21 N72-21624  
Momentum wheel design for spacecraft attitude control and magnetic drum and head system for data storage  
[NASA-CASE-NPO-11481] c21 N73-13644  
An attitude control system  
[NASA-CASE-MFS-22787-1] c21 N74-35096  
Combination automatic-starting electrical plasma torch and gas shutoff valve --- for satellite attitude control  
[NASA-CASE-XLE-10717] c37 N75-29426
- SATELLITE CONTROL**  
Stabilization system for gravity-oriented satellites using single damper rod  
[NASA-CASE-XAC-01591] c31 N71-17729
- SATELLITE DESIGN**  
Inflation system for balloon type satellites  
[NASA-CASE-XGS-03351] c31 N71-16081
- SATELLITE INSTRUMENTS**  
Satellite stabilization reaction wheel scanner  
[NASA-CASE-XGS-02629] c14 N71-21082  
Economical satellite aided vehicle avoidance system for preventing midair collisions  
[NASA-CASE-ERC-10419] c21 N72-21631
- SATELLITE NETWORKS**  
Satellite network synchronization system with multiple access to multiplex repeater  
[NASA-CASE-GSC-10390-1] c07 N72-11149
- SATELLITE ORBITS**  
Development of method and apparatus for spinning satellite about selected axis after reaching predetermined orientation  
[NASA-CASE-HQN-00936] c31 N71-29050
- SATELLITE ORIENTATION**  
Sensing method and device for determining orientation of space vehicle or satellite by using particle traps  
[NASA-CASE-XGS-00466] c21 N70-34297  
Spin phase synchronization of cartwheel satellite in polar orbit  
[NASA-CASE-XGS-05579] c31 N71-15676  
Development of method and apparatus for spinning satellite about selected axis after reaching predetermined orientation  
[NASA-CASE-HQN-00936] c31 N71-29050  
Analog spatial maneuver computer with three output angles for obtaining desired spatial attitude  
[NASA-CASE-GSC-10880-1] c08 N72-11172
- SATELLITE PERTURBATION**  
Flexible turnstile antenna system for reducing nutation in spin-oriented satellites  
[NASA-CASE-XNP-00442] c31 N71-10747
- SATELLITE ROTATION**  
Optical scanner mounted on rotating support structure with method of compensating for image or satellite rotation  
[NASA-CASE-XGS-02401] c14 N69-27485  
Stretch Yo-Yo mechanism for reducing initial spin rate of space vehicle  
[NASA-CASE-XGS-00619] c30 N70-40016  
Development of method and apparatus for spinning satellite about selected axis after reaching predetermined orientation  
[NASA-CASE-HQN-00936] c31 N71-29050
- SATELLITE TELEVISION**  
Adaptive signal generating system and logic circuits for satellite television systems  
[NASA-CASE-GSC-11367] c10 N71-26374
- SATELLITE TRACKING**  
Design and development of tracking receiver for tracking satellites and receiving radio signal transmissions under adverse noise conditions  
[NASA-CASE-XGS-08679] c10 N71-21473  
Simultaneous acquisition of tracking data from two stations  
[NASA-CASE-NPO-13292-1] c32 N75-15854  
Switchable beamwidth monopulse method and system  
[NASA-CASE-GSC-11924-1] c33 N76-27472
- SATELLITE TRANSMISSION**  
Asynchronous, multiplexing, single line transmission and recovery data system --- for satellite use  
[NASA-CASE-NPO-13321-1] c32 N75-26195
- SATELLITE-BORNE PHOTOGRAPHY**  
Rotary solenoid shutter drive assembly and rotary inertia damper and stop plate assembly --- for use with cameras mounted in satellites  
[NASA-CASE-GSC-11560-1] c09 N74-20861
- SATURATION**  
Saturable magnetic core and signal detection for indicating impending saturation  
[NASA-CASE-ERC-10089] c23 N72-17747
- SAWTOOTH WAVEFORMS**  
Linear sawtooth voltage wave generator with transistor timing circuit having capacitor and zener diode feedback loops  
[NASA-CASE-XMS-01315] c09 N70-41675
- SCANNERS**  
Electronic and mechanical scanning control system for monopulse tracking antenna  
[NASA-CASE-XGS-05582] c07 N69-27460  
Electronic background suppression field scanning sensor for detecting point source targets  
[NASA-CASE-XGS-05211] c07 N69-39980  
Electron beam scanning system for improved image definition and reduced power requirements for video signal transmission  
[NASA-CASE-ERC-10552] c09 N71-12539

- Satellite stabilization reaction wheel scanner  
[NASA-CASE-XGS-02629] c14 N71-21082
- Monopulse scanning network for scanning  
volumetric antenna pattern  
[NASA-CASE-GSC-10299-1] c09 N71-24804
- High speed scanner for measuring mass of  
preselected gases at high sampling rate  
[NASA-CASE-LAR-10766-1] c14 N72-21432
- Scan oscilloscope for mapping surface  
sensitivity of photomultiplier tube  
[NASA-CASE-LAR-10320-1] c09 N72-23172
- Ultrasonic scanner for radial and flat panels  
[NASA-CASE-MPS-20335-1] c14 N74-10415
- Apparatus for scanning the surface of a  
cylindrical body  
[NASA-CASE-NPO-11861-1] c14 N74-20009
- Fast scan control for deflection type mass  
spectrometers  
[NASA-CASE-LAR-11428-1] c14 N74-34857
- Liquid-cooled brassiere  
[NASA-CASE-ARC-11007-1] c52 N76-18782
- SCANNING**
- Conversion system for transforming slow scan  
rate of Apollo TV camera on moon to fast scan  
of commercial TV  
[NASA-CASE-XMS-07168] c07 N71-11300
- Operation of vidicon tube for scanning spatial  
charge density pattern  
[NASA-CASE-XNP-06028] c09 N71-23189
- Position determination systems --- using orbital  
antenna scan of celestial bodies  
[NASA-CASE-MSC-12593-1] c17 N76-21250
- SCHLIEREN PHOTOGRAPHY**
- Schlieren system employing antiparallel  
reflector in the forward direction  
[NASA-CASE-ARC-10971-1] c09 N76-26224
- SCHOOLS**
- Silent alarm system for mutiple room facility or  
school  
[NASA-CASE-NPO-11307-1] c10 N73-30205
- SCHOTTKY DIODES**
- High voltage, high current Schottky barrier  
solar cell  
[NASA-CASE-NPO-13482-1] c03 N74-30448
- SCOOPS**
- Aeroflexible wing structure with air scoop for  
inflating stiffeners with ram air  
[NASA-CASE-XLA-06095] c01 N69-39981
- SCREWS**
- Electromechanical control actuator system using  
double differential screws  
[NASA-CASE-ERC-10022] c15 N71-26635
- Adjustable support device with jacket screw for  
altering distance between base and supported  
member  
[NASA-CASE-NPO-10721] c15 N72-27484
- SCRUBBERS**
- Developing high pressure gas purification and  
filtration system for use in test operations  
of space vehicles  
[NASA-CASE-MPS-12806] c14 N71-17588
- Regenerable device for scrubbing breathable air  
of CO<sub>2</sub> and moisture without special heat  
exchanger equipment --- for spacecraft cabin  
atmospheres  
[NASA-CASE-MSC-14770-1] c54 N76-26868
- Regenerable device for scrubbing breathable air  
of CO<sub>2</sub> and moisture without special heat  
exchanger equipment --- spacecraft cabin  
atmospheres  
[NASA-CASE-MSC-14771-1] c54 N76-26869
- SEA ICE**
- Laser technique for breaking ice in ship path  
[NASA-CASE-LAR-10815-1] c16 N72-22520
- SEALERS**
- Design and development of flexible joint for  
pressure suits  
[NASA-CASE-XMS-09636] c05 N71-12344
- Epoxy resin sealing device for electrochemical  
cells in high vacuum environments  
[NASA-CASE-XGS-02630] c03 N71-22974
- Leak resistant bonded elastomeric seal for  
secondary electrochemical cells  
[NASA-CASE-XGS-02631] c03 N71-23006
- Self lubricating fluoride-metal composite  
materials for outer space applications  
[NASA-CASE-XLE-08511] c18 N71-23710
- Polyimides of ether-linked aryl tetracarboxylic  
dianhydrides
- [NASA-CASE-MPS-22355-1] c23 N76-15268
- SEALING**
- Poil seal between parts moving relative to each  
other  
[NASA-CASE-XLE-05130] c15 N69-21362
- Sealed electric storage battery with gas  
manifold interconnecting each cell  
[NASA-CASE-XNP-03378] c03 N71-11051
- Epoxy resin sealing device for electrochemical  
cells in high vacuum environments  
[NASA-CASE-XGS-02630] c03 N71-22974
- Electrode sealing and insulation for fuel cells  
containing caustic liquid electrolytes using  
powdered plastic and metal  
[NASA-CASE-XMS-01625] c15 N71-23022
- Sealing evacuation port and evacuating vacuum  
container such as space jackets  
[NASA-CASE-XMP-03290] c15 N71-23256
- Segmented sealing surface in valve seat  
[NASA-CASE-NPO-10606] c15 N72-25451
- SEALS (STOPPERS)**
- Spacecraft battery seals  
[NASA-CASE-XGS-03864] c15 N69-24320
- Flexible inflatable seal for butterfly valves  
[NASA-CASE-XLE-00101] c15 N70-33376
- Shrink-fit vacuum system gas valve  
[NASA-CASE-XGS-00587] c15 N70-35087
- Thin walled pressure test vessel using  
low-melting alloy-filled joint to attach shell  
to heads  
[NASA-CASE-XLE-04677] c15 N71-10577
- Fluid seal formed by flexible disk on rotating  
shaft to retain lubricating oils around shaft  
[NASA-CASE-XLE-05130-2] c15 N71-19570
- Sealed storage container for channel carriers  
with mounted miniature electronic components  
[NASA-CASE-MPS-20075] c09 N71-26133
- Liquid-vapor interface seal design for turbine  
rotating shafts including helical and  
molecular pumps and liquid cooling of mercury  
vapor  
[NASA-CASE-XNP-02862-1] c15 N71-26294
- Spiral groove seal --- for rotating shaft  
[NASA-CASE-XLE-10326-4] c15 N74-15125
- Glass-to-metal seals comprising relatively high  
expansion metals  
[NASA-CASE-LEW-10698-1] c15 N74-21063
- High speed, self-acting shaft seal --- for use  
in turbine engines  
[NASA-CASE-LEW-11274-1] c37 N75-21631
- High temperature oxidation resistant cermet  
compositions --- for use in thermionic  
converters or diodes  
[NASA-CASE-NPO-13666-1] c27 N76-13293
- Circumferential shaft seal  
[NASA-CASE-LEW-12119-1] c37 N76-20488
- Manufacture of glass-to-metal seals wherein the  
cleanliness of the process is enhanced and the  
leak resistance of the resulting seal is  
maximized  
[NASA-CASE-LAR-11563-1] c37 N76-21558
- Corneal seal device  
[NASA-CASE-LEW-12258-1] c52 N76-22891
- SEAMS (JOINTS)**
- Sealing apparatus for joining two pieces of  
frangible materials  
[NASA-CASE-XLA-01494] c15 N71-24164
- Cord restraint system for pressure suit joints  
[NASA-CASE-XMS-09635] c05 N71-24623
- Method of making pressure tight seal for super  
alloy  
[NASA-CASE-LAR-10170-1] c15 N74-11301
- SEAT BELTS**
- Shoulder harness and lap belt restraint system  
[NASA-CASE-ARC-10519-2] c05 N75-25915
- SECTORS**
- Journal Bearings  
[NASA-CASE-LEW-11076-2] c15 N74-32921
- SEGMENTS**
- Fabrication of curved reflector segments for  
solar mirror  
[NASA-CASE-XLE-08917] c15 N71-15597
- SEISMIC WAVES**
- Determining sway of buildings by low frequency  
device using pendulum  
[NASA-CASE-XNP-00479] c14 N70-34794
- SELECTORS**
- Selector mechanism for mechanical separation and  
discrimination of high velocity molecular

- particles  
[NASA-CASE-XLE-01533] c11 N71-10777
- Peak polarity selector for monitoring waveforms  
[NASA-CASE-PRC-10010] c10 N71-24862
- SELF ALIGNMENT**  
Electro-optical system for maintaining two-axis alignment during milling operations on large tank-sections  
[NASA-CASE-XMF-00908] c14 N70-40238
- SELF ERECTING DEVICES**  
Self-erectable space structures of flexible foam for application in planetary orbits  
[NASA-CASE-XLA-00686] c31 N70-34135  
Manned space station collapsible for launching and self-erectable in orbit  
[NASA-CASE-XLA-00678] c31 N70-34296  
Manned space station launched in packaged condition and self erecting in orbit  
[NASA-CASE-XLA-00258] c31 N70-38676  
Foldable conduit capable of springing back as self erecting structural member  
[NASA-CASE-XLE-00620] c32 N70-41579  
Antenna design with self erecting mesh reflector  
[NASA-CASE-XGS-09190] c31 N71-16102  
Self erecting parabolic reflector design for use in space  
[NASA-CASE-XMS-03454] c09 N71-20658
- SELF LUBRICATING MATERIALS**  
Self lubricating fluoride-metal composite materials for outer space applications  
[NASA-CASE-XLE-08511] c18 N71-23710  
Self lubricating gears and other mechanical parts having surface adapted to frictional contact  
[NASA-CASE-MPS-14971] c15 N71-24984
- SELF LUBRICATION**  
Bearing material  
[NASA-CASE-LEW-11930-2] c24 N76-26282
- SELF MANEUVERING UNITS**  
Hand-held maneuvering unit for propulsion and attitude control of astronauts in zero or reduced gravity environment  
[NASA-CASE-XMS-05304] c05 N71-12336  
Lightweight propulsion unit for movement of personnel and equipment across lunar surface  
[NASA-CASE-MPS-20130] c28 N71-27585
- SELF PROPAGATION**  
Self-generating optical frequency waveguide  
[NASA-CASE-HQN-10541-1] c07 N71-26291
- SELF SEALING**  
Modification of one man life raft  
[NASA-CASE-LAR-10241-1] c05 N74-14845
- SEMICONDUCTOR DEVICES**  
Fixture for simultaneously supporting several components for electrical testing  
[NASA-CASE-XNP-06032] c09 N69-21926  
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Selective gold diffusion on monolithic silicon chips for switching and nonswitching amplifier devices and circuits and linear and digital logic circuits  
[NASA-CASE-ERC-10072] c09 N70-11148  
Extra-long monostable multivibrator employing bistable semiconductor switch to allow charging of timing circuit  
[NASA-CASE-XGS-00381] c09 N70-34819  
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[NASA-CASE-XLE-00808] c24 N71-10560  
Doping silicon material with gadolinium to increase radiation resistance of solar cells  
[NASA-CASE-XLE-02792] c26 N71-10607  
Separation of semiconductor wafer into chips bounded by scribe lines  
[NASA-CASE-ERC-10138] c26 N71-14354  
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[NASA-CASE-XER-07894] c09 N71-18721  
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[NASA-CASE-NPO-10194] c03 N71-20407  
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[NASA-CASE-XLA-04555-1] c14 N71-25892  
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[NASA-CASE-XER-08476-1] c26 N72-17820  
Single crystal film semiconductor devices  
[NASA-CASE-ERC-10222] c09 N72-22199  
Development of process for forming insulating layer between two electrical conductor or semiconductor materials  
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[NASA-CASE-XKS-04614] c15 N69-21460  
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- Development and characteristics of rotary actuator for use on spacecraft to deploy and support pivotal structures such as solar panels  
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[NASA-CASE-XNP-00416] c15 N70-36947
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[NASA-CASE-XLE-00720] c14 N70-40201
- Two axis flight controller with potentiometer control shafts directly coupled to rotatable ball members  
[NASA-CASE-XPR-04104] c03 N70-42073
- Ratchet mechanism for high speed operation at reduced backlash  
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[NASA-CASE-LEW-11855-1] c37 N76-20487
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[NASA-CASE-XLA-00189] c33 N70-36846
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- Dielectric apparatus for heating, fusing, and hardening of organic matrix to form plastic material into shaped product  
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[NASA-CASE-XMS-09691-1] c18 N71-15545
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[NASA-CASE-XLE-01481] c14 N71-10781
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[NASA-CASE-XNP-09462] c14 N71-17584
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[NASA-CASE-XNP-01855] c15 N71-28937
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[NASA-CASE-NPS-13687-2] c09 N72-22198
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[NASA-CASE-XNP-00432] c08 N70-35423
- Linear three-tap feedback shift register  
[NASA-CASE-NPO-10351] c08 N71-12503
- Computer circuit performing both counting and shifting logic operations also capable of miniaturization and integration in basic circuits  
[NASA-CASE-XNP-01753] c08 N71-22897
- Commutator for steering precisely controlled bidirectional currents through numerous loads by use of magnetic core shift registers  
[NASA-CASE-NPO-10743] c08 N72-21199
- Multistage feedback shift register with states decomposable into cycles of equal length  
[NASA-CASE-NPO-11082] c08 N72-22167
- MOD 2 sequential function generator for multibit sequence, with two-bit shift register for each pair of bits  
[NASA-CASE-NPO-10636] c08 N72-25210
- Linear shift register with feedback logic for generating pseudonoise linear recurring binary sequences  
[NASA-CASE-NPO-11406] c08 N73-12175
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[NASA-CASE-NPO-11868] c10 N73-20254
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[NASA-CASE-NPO-11821-1] c08 N73-26175
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[NASA-CASE-NPO-14070-1] c07 N74-32598
- Nonlinear nonsingular feedback shift registers  
[NASA-CASE-NPO-13451-1] c33 N76-14373
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[NASA-CASE-XMP-03856] c31 N70-34159
- Energy dissipating shock absorbing system for land payload recovery or vehicle braking  
[NASA-CASE-XLA-00754] c15 N70-34850
- Shock absorbing couch for body support under high acceleration or deceleration forces  
[NASA-CASE-XMS-01240] c05 N70-35152

Low onset rate energy absorber in form of strut assembly for crew couch of Apollo command module  
[NASA-CASE-MSC-12279-1] c15 N70-35679

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[NASA-CASE-XMP-02853] c31 N70-36654

Spacecraft shock absorbing system for soft landings  
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[NASA-CASE-XMP-01045] c15 N70-40354

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[NASA-CASE-MSC-11253] c05 N71-12343

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[NASA-CASE-XMS-03722] c15 N71-21530

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[NASA-CASE-XLA-01530] c14 N71-23092

Energy absorbing crew couch strut for Apollo command module  
[NASA-CASE-MSC-12279] c15 N72-17450

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[NASA-CASE-NPO-10671] c15 N72-20443

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[NASA-CASE-MSC-22905-1] c19 N76-22284

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[NASA-CASE-XLA-09480] c11 N71-33612

**SHOCK MEASURING INSTRUMENTS**

Semiconductor projectile impact detector  
[NASA-CASE-MPS-23008-1] c35 N76-19405

**SHOCK RESISTANCE**

Removable potting compound for instrument shock protection  
[NASA-CASE-XLA-00482] c15 N70-36409

Thermal shock resistant hafnia ceramic materials  
[NASA-CASE-LAR-10894-1] c18 N73-14584

Thermal shock and erosion resistant tantalum carbide ceramic material  
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**SHOCK TUBES**

Knife structure for controlling rupture of shock tube diaphragms  
[NASA-CASE-XAC-00731] c11 N71-15960

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[NASA-CASE-NPO-12109] c11 N72-22245

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[NASA-CASE-NPO-13528-1] c09 N75-11997

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[NASA-CASE-XLA-02865] c28 N71-15563

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[NASA-CASE-XAC-02970] c14 N69-39896

**SHOCK WAVE PROFILES**

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[NASA-CASE-XAC-02970] c14 N69-39896

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[NASA-CASE-NPO-13528-1] c09 N75-11997

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Vacuum thermionic converter with short-circuited triodes and increased electron transmission and conversion efficiency  
[NASA-CASE-XLE-01015] c03 N69-39898

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[NASA-CASE-XLA-06713] c14 N71-28991

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[NASA-CASE-XLA-01043] c28 N71-10780

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[NASA-CASE-ARC-10516-1] c23 N74-21300

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[NASA-CASE-XMP-02723] c07 N70-41680

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[NASA-CASE-MSC-14066-1] c10 N74-27705

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[NASA-CASE-NPO-13465-1] c32 N76-31372

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**SIGNAL ANALYZERS**

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[NASA-CASE-MSC-12395] c09 N72-25257

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[NASA-CASE-ERC-10041] c08 N71-29138

**SIGNAL DISTORTION**  
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PCM waveforms  
[NASA-CASE-MSC-14557-1] c32 N76-16249

**SIGNAL ENCODING**  
Adaptive compression signal processor for PCM  
communication systems  
[NASA-CASE-XLA-03076] c07 N71-11266

**SIGNAL GENERATORS**  
Plural recorder system which limits signal  
recording to signals of sufficient interest  
[NASA-CASE-XMS-06949] c09 N69-21467  
Alternating current signal generator providing  
plurality of amplitude modulated output signals  
[NASA-CASE-XNP-05612] c09 N69-21468  
Circuitry for generating sync signals in FM  
communication systems including video  
information  
[NASA-CASE-XNP-10830] c07 N71-11281  
Apparatus for generating microwave signals at  
progressively related phase angles for driving  
antenna array  
[NASA-CASE-ERC-10046] c10 N71-18722  
System generating sidereal frequency signals  
from signals of standard solar frequency  
without use of mixing operations or feedback  
loops  
[NASA-CASE-XGS-02610] c14 N71-23174  
Hand controller operable about three  
respectively perpendicular axes and capable of  
actuating signal generators for attitude  
control devices  
[NASA-CASE-XMS-07487] c15 N71-23255  
Voltage controlled oscillators and pulse  
amplitude modulation for signal ratio system  
[NASA-CASE-XNP-04367] c09 N71-23545  
Sampling circuit for signal processing in  
multiplex transmission by Fourier analysis  
[NASA-CASE-NPO-10388] c07 N71-24622  
Signaling summary alarm circuit with  
semiconductor switch for faulty contact  
indications  
[NASA-CASE-XLE-03061-1] c10 N71-24798  
Adaptive signal generating system and logic  
circuits for satellite television systems  
[NASA-CASE-GSC-11367] c10 N71-26374  
Device for monitoring voltage by generating  
signal when voltages drop below predetermined  
value  
[NASA-CASE-KSC-10020] c10 N71-27338  
System for control of variable signal generator  
[NASA-CASE-NPO-11064] c07 N72-11150  
Digital function generator for generating any  
arbitrary single valued function  
[NASA-CASE-NPO-11104] c08 N72-22165  
Development of Hall effect transducer for  
converting mechanical shaft rotations into  
proportional electrical signals  
[NASA-CASE-LAR-10620-1] c09 N72-25255  
Multiterminal Gunn-type semiconductor microwave  
generator for producing stable signals  
[NASA-CASE-XER-07895] c26 N72-25679  
Audio frequency analysis circuit for  
determining, displaying, and recording  
frequency of sweeping audio frequency signal  
[NASA-CASE-NPO-11147] c14 N72-27408  
Digital servo control of random sound test  
excitation --- in reverberant acoustic chamber  
[NASA-CASE-NPO-11623-1] c23 N74-31148  
Signal conditioner test set  
[NASA-CASE-KSC-10750-1] c35 N75-12270  
System for generating timing and control signals  
[NASA-CASE-NPO-13125-1] c33 N75-19519  
Pseudo-noise test set for communication system  
evaluation --- test signals  
[NASA-CASE-MPS-22671-1] c35 N75-21582  
NDR gas analyzer based on absorption modulation  
ratios for known and unknown samples  
[NASA-CASE-ARC-10802-1] c35 N75-30502  
Phase modulator  
[NASA-CASE-LAR-11607-1] c32 N76-10356  
Capacitive shaft encoder  
[NASA-CASE-ARC-10897-1] c35 N76-12338

## SIGNAL MIXING

Impedance transformation device for signal mixing  
[NASA-CASE-XGS-01110] c07 N69-24334

## SIGNAL PROCESSING

Adaptive compression signal processor for PCM  
communication systems  
[NASA-CASE-XLA-03076] c07 N71-11266  
Conversion system for transforming slow scan  
rate of Apollo TV camera on moon to fast scan  
of commercial TV  
[NASA-CASE-XMS-07168] c07 N71-11300  
Difference indicating circuit used in  
conjunction with device measuring  
gravitational fields  
[NASA-CASE-XNP-08274] c10 N71-13537  
Circuitry for developing autocorrelation  
function continuously within signal receiving  
period  
[NASA-CASE-XNP-00746] c07 N71-21476  
System generating sidereal frequency signals  
from signals of standard solar frequency  
without use of mixing operations or feedback  
loops  
[NASA-CASE-XGS-02610] c14 N71-23174  
Feedback integrating circuit with grounded  
capacitor for signal processing  
[NASA-CASE-XAC-10607] c10 N71-23669  
Sampling circuit for signal processing in  
multiplex transmission by Fourier analysis  
[NASA-CASE-NPO-10388] c07 N71-24622  
Video signal processing system for sampling  
video brightness levels  
[NASA-CASE-NPO-10140] c07 N71-24742  
Monopulse scanning network for scanning  
volumetric antenna pattern  
[NASA-CASE-GSC-10299-1] c09 N71-24804  
Apparatus for filtering input signals  
[NASA-CASE-NPO-10198] c09 N71-24806  
Video sync processor with phase locked system  
[NASA-CASE-KSC-10002] c10 N71-25865  
Transient video signal tape recorder with  
expanded playback  
[NASA-CASE-ARC-10003-1] c09 N71-25866  
Scanning signal phase and amplitude electronic  
control device with hybrid T waveguide junction  
[NASA-CASE-NPO-10302] c10 N71-26142  
Variable frequency nuclear magnetic resonance  
spectrometer providing drive signals over wide  
frequency range and minimizing noise effects  
[NASA-CASE-XNP-09830] c14 N71-26266  
Development of apparatus for generating output  
signal commensurate with information contained  
in input signal  
[NASA-CASE-ERC-10041] c08 N71-29138  
Development of electric circuit for production  
of different pulse width signals  
[NASA-CASE-XLA-07788] c09 N71-29139  
Phase shifting circuit for selecting phase of  
input signal  
[NASA-CASE-ARC-10269-1] c10 N72-16172  
Processing system for semiperiodic electrical  
signals to produce real time contoured display  
[NASA-CASE-MSC-13407-1] c10 N72-20225  
Design and characteristics of recording system  
for selective reprocessing and filtering of  
data to obtain optimum signal to noise ratios  
[NASA-CASE-ERC-10112] c07 N72-21119  
Technique for deriving logarithm of input signal  
using exponentially varying electric signal  
inversely  
[NASA-CASE-ERC-10267] c09 N72-23173  
Development and characteristics of telemetry  
system using computer-accessed circuits and  
remotely controlled from ground station  
[NASA-CASE-NPO-11358] c07 N72-25172  
Characteristics of digital data processor using  
pulse from clock source to derive binary  
singlets to show state of various indicators in  
processor  
[NASA-CASE-GSC-10975-1] c08 N73-13187  
Characteristics of two channel telemetry system  
with two data rate channels for high and low  
data rate communication  
[NASA-CASE-NPO-11572] c07 N73-16121  
Measurement system for physical quantity  
represented by or converted to variable  
frequency signal  
[NASA-CASE-MPS-20658-1] c14 N73-30386

Digital to analog converter for sampled signal reconstruction  
[NASA-CASE-MSC-12458-1] c08 N73-32081

Fluid pressure amplifier and system  
[NASA-CASE-LAR-10868-1] c09 N74-11050

Low level signal limiter  
[NASA-CASE-XLE-04791] c14 N74-22096

Miniature multichannel biotelemeter system  
[NASA-CASE-NPO-13065-1] c05 N74-26625

Apparatus and method for processing Korotkov sounds --- for blood pressure measurement  
[NASA-CASE-MSC-13999-1] c05 N74-26626

Pulse stretcher for narrow pulses  
[NASA-CASE-MSC-14130-1] c10 N74-32711

Continuous Fourier transform method and apparatus --- for the analysis of simultaneous analog signal components  
[NASA-CASE-ARC-10466-1] c60 N75-13539

Signal conditioning circuit apparatus --- with constant input impedance  
[NASA-CASE-ARC-10348-1] c33 N75-19518

Television noise reduction device  
[NASA-CASE-MSC-12607-1] c32 N75-21485

Method and apparatus for background signal reduction in opto-acoustic absorption measurement  
[NASA-CASE-NPO-13683-1] c35 N75-29383

Isolated output system for a class D switching-mode amplifier  
[NASA-CASE-MFS-21616-1] c33 N75-30429

Binary to binary coded decimal converter  
[NASA-CASE-GSC-12044-1] c60 N76-13781

Compact bi-phase pulse coded modulation decoder  
[NASA-CASE-KSC-10834-1] c33 N76-14371

Apparatus for determining thermophysical properties of test specimens --- processing of analog signals  
[NASA-CASE-LAR-11883-1] c35 N76-18415

Percutaneous connector device --- for transporting external electrical signals to internal body parts  
[NASA-CASE-KSC-10849-1] c54 N76-19816

Filtering device --- removing electromagnetic noise from voice communication signals  
[NASA-CASE-MFS-22729-1] c32 N76-21366

System for measuring Reynolds in a turbulently flowing fluid --- signal processing  
[NASA-CASE-ARC-10755-2] c34 N76-27517

**SIGNAL RECEPTION**

Radar signal receiver arrangement for extending range and increasing signal to noise ratio  
[NASA-CASE-XNP-00748] c07 N70-36911

Reflectometer for receiver input impedance match measurement  
[NASA-CASE-XNP-10843] c07 N71-11267

Diversity receiving system with diversity phase lock  
[NASA-CASE-XGS-01222] c10 N71-20841

Design and development of signal detection and tracking apparatus  
[NASA-CASE-XGS-03502] c10 N71-20852

Development of optimum pre-detection diversity combining receiving system adapted for use with amplitude modulation, phase modulation, and frequency modulation systems  
[NASA-CASE-XGS-00740] c07 N71-23098

Binary data decoding device for use at receiving end of communication channel  
[NASA-CASE-NPO-10118] c07 N71-24741

Development of electronic circuit for combining input signals on two separate antennas to form two processed signals  
[NASA-CASE-MSC-12205-1] c07 N71-27056

Input signal measurement using liquid crystalline elements  
[NASA-CASE-ERC-10275] c26 N72-25680

Filter for third order phase locked loops in signal receivers  
[NASA-CASE-NPO-11941-1] c10 N73-27171

Electromechanical actuator for producing mechanical force and/or motion in response to electrical signals  
[NASA-CASE-NPO-11738-1] c09 N73-30185

Scan converting video tape recorder  
[NASA-CASE-NPO-10166-2] c35 N76-16391

**SIGNAL REFLECTION**

Reflectometer for receiver input impedance match measurement  
[NASA-CASE-XNP-10843] c07 N71-11267

**SIGNAL STABILIZATION**

Linear accelerator frequency control system  
[NASA-CASE-XGS-05441] c10 N71-22962

Development of apparatus for generating output signal commensurate with information contained in input signal  
[NASA-CASE-ERC-10041] c08 N71-29138

System for interference signal nulling by polarization adjustment  
[NASA-CASE-NPO-13140-1] c32 N75-24982

**SIGNAL TO NOISE RATIOS**

Semiconductor in resonant cavity for improving signal to noise ratio of communication receiver  
[NASA-CASE-MSC-12259-1] c07 N70-12616

Radar signal receiver arrangement for extending range and increasing signal to noise ratio  
[NASA-CASE-XNP-00748] c07 N70-36911

Detector assembly for discriminating first signal with respect to presence or absence of second signal at time of occurrence of first signal  
[NASA-CASE-XMP-00701] c09 N70-40272

Automatic estimation of signal to noise ratio and other parameters in signal communication systems  
[NASA-CASE-XNP-05254] c07 N71-20791

Voltage controlled oscillators and pulse amplitude modulation for signal ratio system  
[NASA-CASE-XMP-04367] c09 N71-23545

Design and characteristics of recording system for selective reprocessing and filtering of data to obtain optimum signal to noise ratios  
[NASA-CASE-ERC-10112] c07 N72-21119

Development of idler feedback system to reduce electronic noise problem in two parametric amplifiers  
[NASA-CASE-LAR-10253-1] c09 N72-25258

Superconductive resonant cavity for improved signal to noise ratio in communication signal  
[NASA-CASE-MSC-12259-2] c07 N72-33146

Signal to noise ratio determination circuit using bandpass limiter  
[NASA-CASE-GSC-11239-1] c10 N73-25241

Gated compressor, distortionless signal limiter  
[NASA-CASE-NPO-11820-1] c07 N74-19788

**SIGNAL TRANSMISSION**

Synchronizing apparatus for multi-access satellite time division multiplex system  
[NASA-CASE-XGS-05918] c07 N69-39974

Electro-mechanical circuit for converting floating intelligence signal to common electrically grounded intelligence recorder  
[NASA-CASE-XAC-00086] c09 N70-33182

Demodulator for simultaneous demodulation of two modulating ac signal carriers close in frequency  
[NASA-CASE-XMP-01160] c07 N71-11298

Bipolar phase detector and corrector for split phase PCM data signals  
[NASA-CASE-XGS-01590] c07 N71-12392

Automatic estimation of signal to noise ratio and other parameters in signal communication systems  
[NASA-CASE-XNP-05254] c07 N71-20791

Multiplexed communication system design including automatic correction of transmission errors introduced by frequency spectrum shifts  
[NASA-CASE-NXP-01306] c07 N71-20814

Adaptive notch filter, using modulation techniques for reversed phase noise signal  
[NASA-CASE-XMP-01892] c10 N71-22986

Pulse generator for synchronizing or resetting electronic signals without requiring separate external source  
[NASA-CASE-XGS-03632] c09 N71-23311

Device for locating electrically nonlinear objects and determining distance to object by FM signal transmission  
[NASA-CASE-KSC-10108] c14 N73-25461

Television multiplexing system, using single crystal controlled clock for signal synchronization  
[NASA-CASE-KSC-10654-1] c07 N73-30115

Controlled oscillator system with a time dependent output frequency  
[NASA-CASE-NPO-11962-1] c09 N74-10194

Pulse code modulated signal synchronizer  
[NASA-CASE-MSC-12462-1] c07 N74-20809

Pulse code modulated signal synchronizer  
[NASA-CASE-MSC-12494-1] c07 N74-20810



- Digital transmitter for data bus communications system  
[NASA-CASE-MSC-14558-1] c32 N75-21486
- Modulator for tone and binary signals --- phase of modulation of tone and binary signals on carrier waves in communication systems  
[NASA-CASE-GSC-11743-1] c32 N75-24981
- Rotating joint signal coupler  
[NASA-CASE-LAR-11264-1] c33 N75-27261
- Automatic transponder --- measurement of the internal delay time of a transponder  
[NASA-CASE-GSC-12075-1] c32 N76-19318
- SILANES**  
Preparation of elastomeric diamine silazane polymers  
[NASA-CASE-XMP-04133] c06 N71-20717
- Synthesis of high purity dianilinosilanes  
[NASA-CASE-XMP-06409] c06 N71-23230
- Process for preparing high molecular weight polyaryloxysilanes from lower molecular weight forms  
[NASA-CASE-XMP-08674] c06 N71-28807
- SILICATES**  
Ultraviolet radiation resistant alkali-metal silicate coatings for temperature control of spacecraft  
[NASA-CASE-XGS-04119] c18 N69-39979
- SILICIDES**  
Silicide coating process and composition for protection of refractory metals from oxidation  
[NASA-CASE-XLE-10910] c18 N71-29040
- Fused silicide coatings containing discrete particles for protecting niobium alloys --- used in space shuttle thermal protection systems and turbine engine components  
[NASA-CASE-LEW-11179-1] c27 N76-16229
- SILICON**  
Method of forming thin window drifted silicon charged particle detector  
[NASA-CASE-XLE-00808] c24 N71-10560
- Gadolinium or samarium doped-silicon semiconductor material with resistance to radiation damage for use in solar cells  
[NASA-CASE-XLE-10715] c26 N71-23292
- Metal pattern bonding technique for cover glass attachment to silicon solar cells for space applications  
[NASA-CASE-XLE-08569] c03 N71-23449
- Covered silicon solar cells and method of manufacture --- with polymeric films  
[NASA-CASE-LEW-11065-2] c44 N76-14600
- SILICON CARBIDES**  
Deposition method for epitaxial beta SiC films having high degree of crystallographic perfection  
[NASA-CASE-ERC-10120] c26 N69-33482
- Producing high purity silicon carbide on carbon base by hydrogen reduction of silicon tetrachloride  
[NASA-CASE-XLA-00158] c26 N70-36805
- Device for producing high purity silicon carbide on carbon base by hydrogen reduction of silicon tetrachloride  
[NASA-CASE-XLA-02057] c26 N70-40015
- Process for fabricating SiC semiconductor devices  
[NASA-CASE-LEW-12094-1] c76 N76-25049
- SILICON COMPOUNDS**  
Doping silicon material with gadolinium to increase radiation resistance of solar cells  
[NASA-CASE-XLE-02792] c26 N71-10607
- Process for preparing disilanol with in-chain perfluoroalkyl groups  
[NASA-CASE-MPS-20979-2] c06 N73-32030
- SILICON CONTROLLED RECTIFIERS**  
Use of silicon controlled rectifier shorting circuit to protect thermoelectric generator source from thermal destruction  
[NASA-CASE-XGS-04808] c03 N69-25146
- Silicon controlled rectifier inverter with compensation of transients to avoid false gating  
[NASA-CASE-XLA-08507] c09 N69-39984
- Reversible ring counter using cascaded single silicon controlled rectifier stages  
[NASA-CASE-XGS-01473] c09 N71-10673
- Silicon controlled rectifier pulse gate amplifier for blocking false gating caused by negative transient voltages  
[NASA-CASE-XLA-07497] c09 N71-12514
- SILICON DIOXIDE**  
Intermittent type silica gel adsorption refrigerator for providing temperature control for spacecraft components  
[NASA-CASE-XNP-00920] c15 N71-15906
- Nose cone mounted heat resistant antenna comprising plurality of adjacent layers of silica not introducing paths of high thermal conductivity through ablative shield  
[NASA-CASE-XMS-04312] c07 N71-22984
- Method and apparatus for stable silicon dioxide layers on silicon grown in silicon nitride ambient  
[NASA-CASE-ERC-10073-1] c06 N74-19769
- Silica reusable surface insulation  
[NASA-CASE-ARC-10721-1] c27 N76-22376
- Two-component ceramic coating for silica insulation  
[NASA-CASE-MSC-14270-1] c27 N76-22377
- Gels as battery separators for soluble electrode cells  
[NASA-CASE-LEW-12364-1] c44 N76-28643
- SILICON FILMS**  
Deposition method for epitaxial beta SiC films having high degree of crystallographic perfection  
[NASA-CASE-ERC-10120] c26 N69-33482
- SILICON JUNCTIONS**  
Improving radiation resistance of silicon semiconductor junctions by doping with lithium  
[NASA-CASE-XGS-07801] c09 N71-12513
- SILICON NITRIDES**  
Method and apparatus for stable silicon dioxide layers on silicon grown in silicon nitride ambient  
[NASA-CASE-ERC-10073-1] c06 N74-19769
- Silicon nitride coated, plastic covered solar cell  
[NASA-CASE-LEW-11496-1] c44 N76-14613
- SILICON OXIDES**  
Three-component ceramic coating for silica insulation  
[NASA-CASE-MSC-14270-2] c27 N76-23426
- SILICON RADIATION DETECTORS**  
Lithium drifted silicon radiation detector with gold rectifying contacts  
[NASA-CASE-XLE-10529] c14 N69-23191
- Silicon radiation detecting probe design for in vivo biomedical use  
[NASA-CASE-XMS-01177] c05 N71-19440
- SILICON TRANSISTORS**  
Vapor deposition method for forming metallized tungsten contacts on silicon substrates  
[NASA-CASE-GSC-10695-1] c09 N72-25259
- Development of method and apparatus for detecting surface ions on silicon diodes and transistors  
[NASA-CASE-ERC-10325] c15 N72-25457
- SILICONE RESINS**  
Vacuum pressure molding technique  
[NASA-CASE-LAR-10073-1] c37 N76-24575
- SILICONIZING**  
Vapor deposited laminated nitride-silicon coating for corrosion prevention of carbonaceous surfaces  
[NASA-CASE-XLA-00284] c15 N71-16075
- SILOXANES**  
Synthesis of siloxane containing epoxy polymers with low dielectric properties  
[NASA-CASE-MPS-13994-1] c06 N71-11240
- Method for producing alternating ether-siloxane copolymers with stable properties when exposed to elevated temperatures and UV radiation  
[NASA-CASE-XMP-02584] c06 N71-20905
- Synthesis of siloxane containing epoxide and diamine polymers  
[NASA-CASE-MPS-13994-2] c06 N72-25148
- Silphenylenesiloxane polymer with in-chain perfluoroalkyl groups  
[NASA-CASE-MPS-20979] c06 N72-25151
- Fluid polydimethylsiloxane resin with low outgassing properties in cured state  
[NASA-CASE-GSC-11358-1] c06 N73-26100
- SILVER**  
Dry electrode manufacture, using silver powder with cement  
[NASA-CASE-FRC-10029-2] c05 N72-25121
- SILVER ALLOYS**  
Brazing alloy composition  
[NASA-CASE-XMP-06053] c26 N75-27126

## SILVER CHLORIDES

Electrochemically reversible silver-silver chloride electrode for detecting bioelectric potential differences generated by human muscles and organs  
[NASA-CASE-XMS-02872] c05 N69-21925

Silver chloride use in technique for fusion bonding of graphite to silver, glass, ceramics, and certain other metals  
[NASA-CASE-XGS-00963] c15 N69-39735

**SILVER COMPOUNDS**  
Description of electrical equipment and system for purification of waste water by producing silver ions for bacterial control  
[NASA-CASE-MSC-10960-1] c03 N71-24718

**SILVER ZINC BATTERIES**  
Elimination of two step voltage discharge property of silver zinc batteries by using divalent silver oxide capacity of cell to charge anodes to monovalent silver state  
[NASA-CASE-XGS-01674] c03 N71-29129

**SIMULATORS**  
Development of apparatus for simulating zero gravity conditions  
[NASA-CASE-MPS-12750] c27 N71-16223

Phonocardiogram simulator producing electrical voltage waves to control amplitude and duration between simulated sounds  
[NASA-CASE-XKS-10804] c05 N71-24606

Sign wave generation simulator for variable amplitude, frequency, damping, and phase pulses for oscilloscope display  
[NASA-CASE-NPO-10251] c10 N71-27365

Simulator for practicing the mating of an observer-controlled object with a target  
[NASA-CASE-MPS-23052-1] c09 N75-25965

**SINE SERIES**  
Service life of electromechanical device for generating sine/cosine functions  
[NASA-CASE-LAR-10503-1] c09 N72-21248

Function generators for producing complex vibration mode patterns used to identify vibration mode data  
[NASA-CASE-LAR-10310-1] c10 N73-20253

**SINE WAVES**  
Sign wave generation simulator for variable amplitude, frequency, damping, and phase pulses for oscilloscope display  
[NASA-CASE-NPO-10251] c10 N71-27365

Wideband generator for producing sine wave quadrature and second harmonic of input signal  
[NASA-CASE-NPO-11133] c10 N72-20223

Brushless electromechanical generator for sine and cosine functions  
[NASA-CASE-LAR-11389-1] c09 N73-32121

**SINGLE CRYSTALS**  
Producing high purity silicon carbide on carbon base by hydrogen reduction of silicon tetrachloride  
[NASA-CASE-XLA-00158] c26 N70-36805

Single crystal film semiconductor devices  
[NASA-CASE-ERC-10222] c09 N72-22199

Growth of gallium nitride crystals  
[NASA-CASE-LAR-11302-1] c25 N75-13054

Hall effect magnetometer  
[NASA-CASE-LEW-11632-2] c35 N75-13213

Vapor phase growth of groups 3-5 compounds by hydrogen chloride transport of the elements  
[NASA-CASE-LAR-11144-1] c25 N75-26043

Method of crystallization --- for semiconductor materials used to manufacture electronic components  
[NASA-CASE-MPS-23001-1] c76 N75-32928

A method and apparatus for continuously processing a single crystalline ribbon in a reduced gravity environment  
[NASA-CASE-MPS-23002-1] c76 N76-13934

**SINTERING**  
Condenser-separator for dehumidifying air utilizing sintered metal surface  
[NASA-CASE-XLA-08645] c15 N69-21465

Production of refractory bodies with controlled porosity by pressing and heating mixtures of refractory and inert metal powders  
[NASA-CASE-LEW-10393-1] c17 N71-15468

**SIZE (DIMENSIONS)**  
Development of apparatus for producing metal powder particles of controlled size  
[NASA-CASE-XLE-06461-2] c17 N72-28535

## SIZE DETERMINATION

Impact measuring technique for determining size of hypervelocity projectiles  
[NASA-CASE-LAR-10913] c14 N72-16282

**SIZE SEPARATION**  
Method and apparatus for precision sizing and joining of large diameter tubes by bulging or constricting overlapping ends  
[NASA-CASE-XMP-05114-2] c15 N71-26148

Device which separates and screens particles of soil samples for vidicon viewing in vacuum and reduced gravity environments  
[NASA-CASE-XNP-09770-3] c11 N71-27036

**SIZING (SHAPING)**  
Method and apparatus for shaping and joining large diameter metal tubes using magnetomotive forces  
[NASA-CASE-XMP-05114] c15 N71-17650

**SIZING SCREENS**  
Method for making screen with unlimited fineness of mesh and screen thickness  
[NASA-CASE-XLE-00953] c15 N71-15966

Screen particle separator for soil samples  
[NASA-CASE-XNP-09770-2] c15 N72-22483

**SKENOBESS**  
Tape guidance system for multichannel digital recording system  
[NASA-CASE-XNP-09453] c08 N71-19420

Automatic character skew and spacing checking network --- of digital tape drive systems  
[NASA-CASE-GSC-11925-1] c33 N76-18353

**SKID LANDINGS**  
Nose gear steering system for vehicles with main skids to provide directional stability after loss of aerodynamic control  
[NASA-CASE-XLA-01804] c02 N70-34160

**SKIN (ANATOMY)**  
Conditioning tanned sharkskin for use as abrasive resistant clothing  
[NASA-CASE-XMS-09691-1] c18 N71-15545

Percutaneous connector device --- for transporting external electrical signals to internal body parts  
[NASA-CASE-KSC-10849-1] c54 N76-19816

**SKIN (STRUCTURAL MEMBER)**  
Development of resilient fastener for attaching skin of aerospace vehicles to permit movement of skin relative to framework  
[NASA-CASE-XLA-01027] c31 N71-24035

**SKIN TEMPERATURE (BIOLOGY)**  
Thermistor holder for skin temperature measurements  
[NASA-CASE-ARC-10855-1] c52 N75-33642

**SKIN TEMPERATURE (NON-BIOLOGICAL)**  
Heat flux sensor adapted for mounting on aircraft or spacecraft to measure aerodynamic heat flux inflow to aircraft skin  
[NASA-CASE-XPR-03802] c33 N71-23085

**SKIIRTS**  
Inflatable rocket engine nozzle skirt with transpiration cooling  
[NASA-CASE-MPS-20619] c28 N72-11708

**SKY**  
Camera arrangement --- for satellite scanning of earth or sky  
[NASA-CASE-GSC-12032-2] c35 N76-19408

**SLEEP**  
Development of apparatus and method for quantitatively measuring brain activity as automatic indication of sleep state and level of consciousness  
[NASA-CASE-MSC-13282-1] c05 N71-24729

**SLEEVES**  
Nonreusable energy absorbing device comprising ring member with plurality of recesses, cutting members, and guide member mounted in each recess  
[NASA-CASE-XMP-10040] c15 N71-22877

System for enhancing tool-exchange capabilities of a portable wrench  
[NASA-CASE-MPS-22283-1] c37 N75-33395

**SLENDER BODIES**  
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**SLIDING CONTACT**  
Electrical connector pin with wiping action to assure reliable contact  
[NASA-CASE-XMP-04238] c09 N69-39734

- Development of slip ring assembly with inner and outer peripheral surfaces used as electrical contacts for brushes  
[NASA-CASE-XNP-01049] c15 N71-23049
- SLIDING FRICTION**  
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[NASA-CASE-LEW-11930-1] c24 N76-22309
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[NASA-CASE-XNP-00476] c15 N70-38620  
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[NASA-CASE-LAR-10409-1] c15 N74-21059
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[NASA-CASE-NPO-10301] c07 N72-11148  
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[NASA-CASE-ERC-10214] c09 N72-31235  
Turnstile slot antenna  
[NASA-CASE-GSC-11428-1] c09 N74-20864  
Horn antenna having V-shaped corrugated slots  
[NASA-CASE-LAR-11112-1] c32 N76-15330
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Belleville spring assembly with elastic guides having low hysteresis  
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[NASA-CASE-LEW-11162-1] c09 N74-12913

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[NASA-CASE-XNP-03459] c15 N71-21078  
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[NASA-CASE-XLA-08966-1] c17 N71-25903  
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[NASA-CASE-ARC-10896-1] c34 N75-32389

**SORET COEFFICIENT**

Method of growing composites of the type exhibiting the Soret effect --- improve structure of eutectic alloys, crystals  
[NASA-CASE-NPS-22926-1] c25 N75-19380

**SOUND GENERATORS**

Ejectable underwater sound source recovery assembly  
[NASA-CASE-LAR-10595-1] c15 N74-16135

**SOUND PRESSURE**

Instrumentation for measurement of aircraft noise and sonic boom  
[NASA-CASE-LAR-11173-1] c35 N75-19614

**SOUND TRANSDUCERS**

Method and transducer device for detecting presence of hydrogen gas  
[NASA-CASE-XMP-03873] c06 N69-39733

Sensor for detecting and measuring energy, velocity and direction of travel of a cosmic dust particle  
[NASA-CASE-GSC-10503-1] c14 N72-20381

**SOUND WAVES**

Piezoelectric transducer for monitoring sound waves of physiological origin  
[NASA-CASE-XMS-05365] c14 N71-22993

Material suspension within an acoustically excited resonant chamber --- at near weightless conditions  
[NASA-CASE-NPO-13263-1] c12 N75-24774

Distributed feedback acoustic surface wave oscillator  
[NASA-CASE-NPO-13673-1] c33 N75-32323

Acoustic energy shaping  
[NASA-CASE-NPO-13802-1] c71 N76-18886

**SOUNDING ROCKETS**

Development of attitude control system for sounding rocket stabilization during ballistic phase of flight  
[NASA-CASE-XGS-01654] c31 N71-24750

System for deploying and ejecting releasable clamshell fairing sections from spinning sounding rockets  
[NASA-CASE-GSC-10590-1] c31 N73-14853

## SPACE CAPSULES

Assembly for opening flight capsule stabilizing and decelerating flaps with reference to capsule recovery  
[NASA-CASE-XMF-00641] c31 N70-36410  
Design and configuration of manned space capsule  
[NASA-CASE-XLA-01332] c31 N71-15664  
Describing assembly for opening stabilizing and decelerating flaps of flight capsules used in space research  
[NASA-CASE-XMF-03169] c31 N71-15675

## SPACE COMMUNICATION

Radio receiver with array of independently steerable antennas for deep space communication  
[NASA-CASE-XLA-00901] c07 N71-10775  
Design and development of tracking receiver for tracking satellites and receiving radio signal transmissions under adverse noise conditions  
[NASA-CASE-XGS-08679] c10 N71-21473  
Development of antenna system for spin stabilized communication satellite for simultaneous reception and transmission of data  
[NASA-CASE-XGS-02607] c31 N71-23009  
Space communication system for compressed data with a concatenated Reed Solomon-Viterbi coding channel  
[NASA-CASE-XMF-13545-1] c32 N75-26207

## SPACE ENVIRONMENT SIMULATION

Simulating voltage-current characteristic curves of solar cell panel with different operational parameters  
[NASA-CASE-XMS-01554] c10 N71-10578  
Method and feed system for separating and orienting liquid and vapor phases of liquid propellants in zero gravity environment  
[NASA-CASE-XLE-01182] c27 N71-15635  
Cable suspension and inclined walkway system for simulating reduced or zero gravity environments  
[NASA-CASE-XLA-01787] c11 N71-16028  
Space environment simulation system for measuring spacecraft electric field strength in plasma sheath  
[NASA-CASE-XLE-02038] c09 N71-16086  
Optical characteristics measuring apparatus  
[NASA-CASE-XNP-08840] c23 N71-16365  
Omnidirectional anisotropic molecular trap, used with vacuum pump to simulate space environments for testing spacecraft components  
[NASA-CASE-IGS-00783] c30 N71-17788  
Space environmental work simulator with portions of space suit mounted to vacuum chamber wall  
[NASA-CASE-XMF-07488] c11 N71-18773  
Low and zero gravity simulator for astronaut training  
[NASA-CASE-MFS-10555] c11 N71-19494  
Self lubricating fluoride-metal composite materials for outer space applications  
[NASA-CASE-XLE-08511] c18 N71-23710  
Test chamber for determining decomposition and autoignition of materials used in spacecraft under controlled environmental conditions  
[NASA-CASE-KSC-10198] c11 N71-28629  
Illumination system design for use as sunlight simulator in space environment simulators with multiple light sources reflected to single virtual source  
[NASA-CASE-HQN-10781] c23 N71-30292  
Pressure regulator for space suit worn underwater to simulate space environment for testing and experimentation  
[NASA-CASE-MFS-20332] c05 N72-20097

## SPACE ERECTABLE STRUCTURES

Self-erectable space structures of flexible foam for application in planetary orbits  
[NASA-CASE-XLA-00686] c31 N70-34135  
Manned space station collapsible for launching and self-erectable in orbit  
[NASA-CASE-XLA-00678] c31 N70-34296  
Manned space station launched in packaged condition and self erecting in orbit  
[NASA-CASE-XLA-00258] c31 N70-38676  
Collapsible, space erectable loop antenna system for space vehicle  
[NASA-CASE-XMF-00437] c07 N70-40202  
Erectable, inflatable, radio signal reflecting passive communication satellite  
[NASA-CASE-XLA-00210] c30 N70-40309  
Deployment system for flexible wing with rigid superstructure

[NASA-CASE-XLA-01220] c02 N70-41863  
Capillary radiator for carrying heat transfer liquid in planetary spacecraft structures  
[NASA-CASE-XLE-03307] c33 N71-14035  
Describing apparatus for manufacturing operations in low and zero gravity environments of orbital space flight  
[NASA-CASE-MFS-20410] c15 N71-19214  
Space erectable rollup solar array of arcuate solar panels furled on tapered drum for spacecraft storage during launch  
[NASA-CASE-NPO-10188] c03 N71-20273  
Self erecting parabolic reflector design for use in space  
[NASA-CASE-XMS-03454] c09 N71-20658  
Pneumatic cantilever beams and platform for space erectable structure  
[NASA-CASE-XLA-01731] c32 N71-21045  
Hydraulic actuator design for space deployment of heat radiators  
[NASA-CASE-HSC-11817-1] c15 N71-26611  
Space expandable tether device for use as passageway between two docked spacecraft  
[NASA-CASE-XMS-10993] c15 N71-28936  
Expandable space frames with high expansion to collapse ratio  
[NASA-CASE-ERC-10365-1] c31 N73-32749

## SPACE EXPLORATION

Self-propelled vehicle with wheel, track laying, and walking capability for exploratory expolaration  
[NASA-CASE-NPO-11366] c11 N73-26238  
Simulator for practicing the mating of an observer-controlled object with a target  
[NASA-CASE-MFS-23052-1] c09 N75-25965

## SPACE FLIGHT

Portable environmental control and life support system for astronaut in and out of spacecraft  
[NASA-CASE-XMS-09632-1] c05 N71-11203  
Television simulation for aircraft and space flight  
[NASA-CASE-XPR-03107] c09 N71-19449

## SPACE MAINTENANCE

System for removing and repairing spacecraft control thrusters by use of portable air locks  
[NASA-CASE-MFS-20325] c28 N71-27095

## SPACE MANUFACTURING

Material suspension within an acoustically excited resonant chamber --- at near weightless conditions  
[NASA-CASE-NPO-13263-1] c12 N75-24774  
Method for manufacturing mirrors in zero gravity environment  
[NASA-CASE-HSC-12611-1] c12 N76-15189

## SPACE MISSIONS

Planetary atmospheric investigation using split trajectory dual flyby mode  
[NASA-CASE-XAC-08494] c30 N71-15990  
Elimination of tracking occultation problems occurring during continuous monitoring of interplanetary missions by using Earth orbiting communications satellite  
[NASA-CASE-XAC-06029-1] c31 N71-24813  
Design and development of space shuttle system for delivering payload to earth orbit or celestial orbit  
[NASA-CASE-HSC-12391] c30 N73-12884

## SPACE NAVIGATION

Electrical and electromechanical trigonometric computation assembly and space vehicle guidance system for aligning perpendicular axes of two sets of three-axes coordinate references  
[NASA-CASE-XMF-00684] c21 N71-21688  
Momentum wheel design for spacecraft attitude control and magnetic drum and head system for data storage  
[NASA-CASE-NPO-11481] c21 N73-13644  
Method for producing reticles for use in outer space  
[NASA-CASE-GSC-11188-2] c21 N73-19630

## SPACE ORIENTATION

Sensing method and device for determining orientation of space vehicle or satellite by using particle traps  
[NASA-CASE-XGS-00466] c21 N70-34297

## SPACE RENDEZVOUS

Method and apparatus for connecting two spacecraft with probe of one inserted in

- rocket engine nozzle of other spacecraft  
[NASA-CASE-MFS-11133] c31 N71-16222
- SPACE SHUTTLE ORBITERS**  
Variable dihedral shuttle orbiter --- for flight at hypersonic and subsonic speeds  
[NASA-CASE-LAR-10706-1] c18 N75-16613  
Thermal insulation attaching means  
[NASA-CASE-MSC-12619-1] c39 N75-21671
- SPACE SHUTTLES**  
Designing spacecraft for flight into space, atmospheric reentry, and landing at selected sites  
[NASA-CASE-XAC-02058] c02 N71-16087  
Design and development of space shuttle system for delivering payload to earth orbit or celestial orbit  
[NASA-CASE-MSC-12391] c30 N73-12884  
Spacecraft configurations and aerodynamic characteristics of space shuttle systems with two reusable stages  
[NASA-CASE-MSC-12433] c31 N73-14854  
Variable ratio mixed-mode bilateral master-slave control system for shuttle remote manipulator system  
[NASA-CASE-MSC-14245-1] c18 N75-27041  
Fused silicide coatings containing discrete particles for protecting niobium alloys --- used in space shuttle thermal protection systems and turbine engine components  
[NASA-CASE-LEW-11179-1] c27 N76-16229
- SPACE SIMULATORS**  
Space simulator with uniform test region radiation distribution, adapted to simulate Venus solar radiations  
[NASA-CASE-XNP-00459] c11 N70-38675  
Variable geometry manned orbital vehicle having high aerodynamic efficiency over wide speed range and incorporating auxiliary pivotal wings  
[NASA-CASE-XLA-03691] c31 N71-15674  
Development of method and equipment for testing heat radiative properties of material under controlled environmental conditions  
[NASA-CASE-MFS-20096] c14 N71-30026
- SPACE STATIONS**  
Manned space station launched in packaged condition and self erecting in orbit  
[NASA-CASE-XLA-00258] c31 N70-38676  
Multiple in-line docking capability having intermeshing docking turrets for rotating space stations  
[NASA-CASE-MFS-20855-1] c31 N72-25853  
Meteoroid impact position locator aid for manned space station  
[NASA-CASE-LAR-10629-1] c35 N75-33367
- SPACE SUITS**  
Astronaut restraint suit for high acceleration protection  
[NASA-CASE-XAC-00405] c05 N70-41819  
Space suit with pressure-volume compensator system  
[NASA-CASE-XLA-05332] c05 N71-11194  
Equipotential space suits utilizing mechanical aids to minimize astronaut energy at bending joints  
[NASA-CASE-LAR-10007-1] c05 N71-11195  
One piece human garment for use as contamination proof garment  
[NASA-CASE-MSC-12206-1] c05 N71-17599  
Space environmental work simulator with portions of space suit mounted to vacuum chamber wall  
[NASA-CASE-XMP-07488] c11 N71-18773  
Space suit body heat exchanger design composed of thermal conductance yarn and liquid coolant loops  
[NASA-CASE-XMS-09571] c05 N71-19439  
Space suit using nonflexible material with low leakage and providing protection against thermal extremes, physical punctures, and radiation with high mobility articulation  
[NASA-CASE-XAC-07043] c05 N71-23161  
Sealing evacuation port and evacuating vacuum container such as space jackets  
[NASA-CASE-XMP-03290] c15 N71-23256  
Structure of fabric layers for micrometeoroid protection garment with capability for eliminating heat shorts for use in manufacturing space suits  
[NASA-CASE-MSC-12109] c18 N71-26285  
Venting device for pressurized space suit helmet to eliminate vomit expelled by crewmen  
[NASA-CASE-XMS-09652-1] c05 N71-26333  
Automatic control device for regulating inlet water temperature of liquid cooled spacesuit  
[NASA-CASE-MSC-13917-1] c05 N72-15098  
Pressure regulator for space suit worn underwater to simulate space environment for testing and experimentation  
[NASA-CASE-MFS-20332] c05 N72-20097  
Space suit with improved waist and torso movement  
[NASA-CASE-ARC-10275-1] c05 N72-22092  
Underwater space suit pressure control regulator  
[NASA-CASE-MFS-20332-2] c05 N73-25125  
Automatic temperature control for liquid cooled space suit  
[NASA-CASE-ARC-10599-1] c05 N73-26071  
Intra- and extravehicular life support space suite for Apollo astronauts  
[NASA-CASE-MSC-12609-1] c05 N73-32012  
Non-flammable elastomeric fiber from a fluorinated elastomer and containing an halogenated flame retardant  
[NASA-CASE-MSC-14331-1] c27 N76-24405
- SPACE VEHICLE CHECKOUT PROGRAM**  
Hydraulic support apparatus for dynamic testing of space vehicles under near-free flight conditions  
[NASA-CASE-XMF-03248] c11 N71-10604  
Digital computer system for automatic prelaunch checkout of spacecraft  
[NASA-CASE-XKS-08012-2] c31 N71-15566  
Developing high pressure gas purification and filtration system for use in test operations of space vehicles  
[NASA-CASE-MFS-12806] c14 N71-17588
- SPACEBORNE PHOTOGRAPHY**  
Camera arrangement --- for satellite scanning of earth or sky  
[NASA-CASE-GSC-12032-2] c35 N76-19408
- SPACECRAFT**  
Metal strip mounting arrangement for solar cell arrays on spacecraft  
[NASA-CASE-XGS-01475] c03 N71-11058  
Attitude sensor with scanning mirrors for detecting orientation of space vehicle with respect to planet  
[NASA-CASE-XLA-00793] c21 N71-22880  
Negation of magnetic fields produced by thin waferlike circuit elements in space vehicles  
[NASA-CASE-XGS-03390] c03 N71-23187  
Low mass ionizing device for use in electric thrust spacecraft engines  
[NASA-CASE-XNP-01954] c28 N71-28850  
Vacuum chamber with scale model of rocket engine base area of space vehicle  
[NASA-CASE-MFS-20620] c11 N72-27262
- SPACECRAFT ANTENNAS**  
Low loss parasitic probe antenna for prelaunch tests of spacecraft antennas  
[NASA-CASE-XKS-09348] c09 N71-13521  
Millimeter wave antenna system for spacecraft use  
[NASA-CASE-GSC-10949-1] c07 N71-28965  
Low weight, integrated thermoelectric generator/antenna combination for spacecraft  
[NASA-CASE-XER-09521] c09 N72-12136  
Omnidirectional antenna array with circumferential slots for mounting on cylindrical space vehicle  
[NASA-CASE-LAR-10163-1] c09 N72-25247  
Furlable antenna for spacecraft  
[NASA-CASE-NPO-11361] c07 N72-32169  
Collapsible support for antenna reflector applied to installation of spacecraft antennas  
[NASA-CASE-NPO-11751] c07 N73-24176
- SPACECRAFT CABIN ATMOSPHERES**  
Thermal control wall panel with application to spacecraft cabins  
[NASA-CASE-XLA-01243] c33 N71-22792  
Nonflammable coating compositions --- for use in high oxygen environments  
[NASA-CASE-MFS-20486-2] c18 N74-17283  
Regenerable device for scrubbing breathable air of CO2 and moisture without special heat exchanger equipment --- for spacecraft cabin atmospheres  
[NASA-CASE-MSC-14770-1] c54 N76-26868  
Regenerable device for scrubbing breathable air of CO2 and moisture without special heat exchanger equipment --- spacecraft cabin atmospheres



- [NASA-CASE-MSC-14771-1] c54 N76-26869
- SPACECRAFT COMMUNICATION**
- Synchronizing apparatus for multi-access satellite time division multiplex system [NASA-CASE-XGS-05918] c07 N69-39974
- Phase shift data transmission system with pseudo-noise synchronization code modulated with digital data into single channel for spacecraft communication [NASA-CASE-XNP-00911] c08 N70-41961
- Design and development of tracking receiver for tracking satellites and receiving radio signal transmissions under adverse noise conditions [NASA-CASE-XGS-08679] c10 N71-21473
- Microwave omnidirectional antenna for use on spacecraft [NASA-CASE-XLA-03114] c09 N71-22888
- VHF/UHF parasitic probe antenna for spacecraft communication [NASA-CASE-XKS-09340] c07 N71-24614
- System designed to reduce time required for obtaining synchronization in data communication with spacecraft utilizing pseudonoise codes [NASA-CASE-NPO-10214] c10 N71-26577
- Turnstile slot antenna [NASA-CASE-GSC-11428-1] c09 N74-20864
- Switchable beamwidth monopulse method and system [NASA-CASE-GSC-11924-1] c33 N76-27472
- SPACECRAFT COMPONENTS**
- Rectangular electric conductors for conductor cables to withstand spacecraft vibration and controlled atmosphere [NASA-CASE-MPS-14741] c09 N70-20737
- Vibration damping system operating in low vacuum environment for spacecraft mechanisms [NASA-CASE-XMS-01620] c23 N71-15673
- Intermittent type silica gel adsorption refrigerator for providing temperature control for spacecraft components [NASA-CASE-XNP-00920] c15 N71-15906
- Omnidirectional anisotropic molecular trap, used with vacuum pump to simulate space environments for testing spacecraft components [NASA-CASE-XGS-00783] c30 N71-17788
- Spacecraft air lock system to provide ingress and egress of astronaut without subjecting vehicular environment to vacuum of space [NASA-CASE-XLA-02050] c31 N71-22968
- Development and characteristics of docking structure and apparatus for spacecraft docking [NASA-CASE-XMP-05941] c31 N71-23912
- Design and development of release mechanism for spacecraft components, releasable despin weights, and extensible gravity booms [NASA-CASE-XGS-08718] c15 N71-24600
- Space environment simulator for testing spacecraft components under aerospace conditions [NASA-CASE-NPO-10141] c11 N71-24964
- Design and development of spacecraft with outer shell structure heat shielding and built-in, removable excursion module [NASA-CASE-MSC-13047-1] c31 N71-25434
- Electronic detection system for peak acceleration limits in vibrational testing of spacecraft components [NASA-CASE-NPO-10556] c14 N71-27185
- Development of solid state polymer coating for obtaining thermal balance in spacecraft components [NASA-CASE-XLA-01745] c33 N71-28903
- Development of apparatus for mounting scientific experiments in spacecraft to permit utilization without maneuvering spacecraft [NASA-CASE-MSC-12372-1] c31 N72-25842
- Airlock**
- [NASA-CASE-MPS-20922-1] c15 N74-22136
- Thrust-isolating mounting --- characteristics of support for loads mounted in spacecraft**
- [NASA-CASE-MPS-21680-1] c32 N74-27397
- Variable ratio mixed-mode bilateral master-slave control system for shuttle remote manipulator system [NASA-CASE-MSC-14245-1] c18 N75-27047
- SPACECRAFT CONFIGURATIONS**
- Inflatable honeycomb panel element for lightweight structures usable in space stations and other construction [NASA-CASE-XLA-00204] c32 N70-36536
- Lenticular vehicle with foldable aerodynamic control flaps and reaction jets for operation above and within earth's atmosphere [NASA-CASE-XGS-00260] c31 N70-37924
- Stage separation system for spinning vehicles and payloads [NASA-CASE-XLA-02132] c31 N71-10582
- Spacecraft configurations and aerodynamic characteristics of space shuttle systems with two reusable stages [NASA-CASE-MSC-12433] c31 N73-14854
- Space vehicle [NASA-CASE-MPS-22734-1] c18 N75-19325
- SPACECRAFT CONSTRUCTION MATERIALS**
- Pressurized cell micrometeoroid detector [NASA-CASE-XLA-00936] c14 N71-14996
- Flexible barrier membrane comprising porous substrate and incorporating liquid gallium or indium metal used as sealant barriers for spacecraft walls and pumping liquid propellants [NASA-CASE-XNP-08881] c17 N71-28747
- Method of producing complex aluminum alloy parts of high temper, and products thereof [NASA-CASE-MSC-19693-1] c26 N76-29401
- SPACECRAFT CONTROL**
- Light sensitive digital aspect sensor for attitude control of earth satellites or space probes [NASA-CASE-XGS-00359] c14 N70-34158
- Spacecraft attitude control system using solar and earth sensors, gyroscopes, and jet actuators [NASA-CASE-XNP-00465] c21 N70-35395
- Multiple parachute system for landing control of Apollo type spacecraft [NASA-CASE-XLA-00898] c02 N70-36804
- Attitude control device for space vehicles [NASA-CASE-XNP-00294] c21 N70-36938
- Attitude orientation control of spin stabilized final stage space vehicles, using horizon scanners [NASA-CASE-XLA-00281] c21 N70-36943
- Aerodynamic configuration of reentry vehicle heat shield to provide longitudinal and directional stability at hypersonic velocities [NASA-CASE-XMS-04142] c31 N70-41631
- Star sensor system for roll attitude control of spacecraft [NASA-CASE-XNP-01307] c21 N70-41856
- Photomultiplier detector of Canopus for spacecraft attitude control [NASA-CASE-XNP-03914] c21 N71-10771
- Development of spacecraft experiment pointing and attitude control system [NASA-CASE-XLA-05464] c21 N71-14132
- Development of attitude control system for spacecraft orientation [NASA-CASE-XGS-04393] c21 N71-14159
- Drive mechanism for operating reactance attitude control system for aerospace bodies [NASA-CASE-XMP-01598] c21 N71-15583
- Attitude detection system using stellar references for three-axis control and spin stabilized spacecraft [NASA-CASE-XGS-03431] c21 N71-15642
- Large amplitude, linear inertial reference system of vibrating string type for spacecraft reference plane [NASA-CASE-XAC-03107] c23 N71-16098
- Construction and method of arranging plurality of ion engines to form cluster thereby increasing efficiency and control by decreasing heat radiated to space [NASA-CASE-XNP-02923] c28 N71-23081
- Ion beam deflector system for electronic thrust vector control for ion propulsion yaw, pitch, and roll forces [NASA-CASE-LEN-10689-1] c28 N71-26173
- Heated porous plug microthruster for spacecraft reaction jet controlled systems such as fuel flow regulation, propellant disassociation, and heat transfer augmentation [NASA-CASE-GSC-10640-1] c28 N72-18766
- Development of thrust control system for application to control of aircraft and spacecraft [NASA-CASE-MSC-13397-1] c21 N72-25595
- SPACECRAFT DESIGN**
- Lunar landing flight research vehicle [NASA-CASE-XPR-00929] c31 N70-34966

- Design and configuration of manned space capsule  
[NASA-CASE-XLA-01332] c31 N71-15664
- Development of spacecraft radiator cover  
[NASA-CASE-MSC-12049] c31 N71-16080
- Method and apparatus for connecting two spacecraft with probe of one inserted in rocket engine nozzle of other spacecraft  
[NASA-CASE-MPS-11133] c31 N71-16222
- Development and characteristics of protective coatings for spacecraft  
[NASA-CASE-XNP-02507] c31 N71-17679
- Development and characteristics of self supporting space vehicle  
[NASA-CASE-XLA-00117] c31 N71-17680
- Multi-mission space vehicle module stage design  
[NASA-CASE-XMP-01543] c31 N71-17730
- Development and characteristics of docking structure and apparatus for spacecraft docking  
[NASA-CASE-XNP-05941] c31 N71-23912
- Design and development of spacecraft with outer shell structure heat shielding and built-in, removable excursion module  
[NASA-CASE-MSC-13047-1] c31 N71-25434
- Spacecraft design with single point aerodynamic and hydrodynamic stability for emergency transport of men from space station to splashdown  
[NASA-CASE-MSC-13281] c31 N72-18859
- Space vehicle  
[NASA-CASE-MPS-22734-1] c18 N75-19329
- Particulate and solar radiation stable coating for spacecraft  
[NASA-CASE-LAR-10805-2] c37 N75-29431
- Space vehicle system  
[NASA-CASE-MSC-12561-1] c18 N76-17185
- SPACECRAFT DOCKING**
- Probe and drogue assembly for mechanical linking of two space vehicles  
[NASA-CASE-XMS-03613] c31 N71-16346
- Development and characteristics of docking structure and apparatus for spacecraft docking  
[NASA-CASE-XNP-05941] c31 N71-23912
- Latch for fastening spacecraft docking rings  
[NASA-CASE-MSC-15474-1] c15 N71-26162
- Multiple in-line docking capability having intermeshing docking turrets for rotating space stations  
[NASA-CASE-MPS-20855-1] c31 N72-25853
- High energy absorption docking system design for docking large spacecraft  
[NASA-CASE-MPS-20863] c31 N73-26876
- Latch mechanism  
[NASA-CASE-MSC-12549-1] c15 N74-27903
- Combined docking and grasping device  
[NASA-CASE-MPS-23088-1] c18 N75-29160
- Spacecraft docking and alignment system --- using television camera system  
[NASA-CASE-MSC-12559-1] c18 N76-14186
- SPACECRAFT ELECTRONIC EQUIPMENT**
- Equipment for testing of ground station ranging equipment and spacecraft transponders  
[NASA-CASE-XMS-05454-1] c07 N71-12391
- Describing apparatus used in vacuum deposition of thin film inductive windings for spacecraft microcircuitry  
[NASA-CASE-XNP-01667] c15 N71-17647
- Nose cone mounted heat resistant antenna comprising plurality of adjacent layers of silica not introducing paths of high thermal conductivity through ablative shield  
[NASA-CASE-XMS-04312] c07 N71-22984
- SPACECRAFT ENVIRONMENTS**
- Portable environmental control and life support system for astronaut in and out of spacecraft  
[NASA-CASE-XMS-09632-1] c05 N71-11203
- Quick disconnect latch and handle combination for mounting articles on walls or supporting bases in spacecraft under zero gravity conditions  
[NASA-CASE-MPS-11132] c15 N71-17649
- Dual solid cryogenics for spacecraft refrigeration insuring low temperature cooling for extended periods  
[NASA-CASE-GSC-10188-1] c23 N71-24725
- Dual stage check valve for cryogenic supply systems used in space flight environmental control system  
[NASA-CASE-MSC-13587-1] c15 N73-30459
- Metering gun for dispensing precisely measured charges of fluid  
[NASA-CASE-MPS-21163-1] c05 N74-17853
- Zero gravity separator  
[NASA-CASE-LAR-10344-1] c35 N76-33470
- SPACECRAFT GUIDANCE**
- Automatic ejection valve for attitude control and midcourse guidance of space vehicles  
[NASA-CASE-XNP-00676] c15 N70-38996
- Electrical and electromechanical trigonometric computation assembly and space vehicle guidance system for aligning perpendicular axes of two sets of three-axes coordinate references  
[NASA-CASE-XNP-00684] c21 N71-21688
- Design and characteristics of device for sensing solar radiation and providing spacecraft attitude control to maintain direction with respect to incident radiation  
[NASA-CASE-XNP-05535] c14 N71-23040
- Inertial gimbal alignment system for spacecraft guidance  
[NASA-CASE-XNP-01669] c21 N71-23289
- Hermetically sealed vibration damper design for use in gimbal assembly of spacecraft inertial guidance system  
[NASA-CASE-MSC-10959] c15 N71-26243
- SPACECRAFT INSTRUMENTS**
- Mechanical coordinate converter for use with spacecraft tracking antennas  
[NASA-CASE-XNP-00614] c14 N70-36907
- Air bearings for spacecraft gyros  
[NASA-CASE-XNP-00339] c15 N70-39896
- Unfolding boom assembly with knuckle joints for positioning equipment for spacecraft  
[NASA-CASE-XGS-00938] c32 N70-41367
- Pressurized cell micrometeoroid detector  
[NASA-CASE-XLA-00936] c14 N71-14996
- Guidance analyzer having suspended spacecraft simulating sphere for astronavigation  
[NASA-CASE-XNP-09572] c14 N71-15621
- Inertial component clamping assembly design for spacecraft guidance and control system mounting  
[NASA-CASE-XMS-02184] c15 N71-20813
- Optical projector system for establishing optimum arrangement of instrument displays in aircraft, spacecraft, other vehicles, and industrial instrument consoles  
[NASA-CASE-XNP-03853] c23 N71-21882
- Combined optical attitude and altitude indicating instrument for use in aircraft or spacecraft  
[NASA-CASE-XLA-01907] c14 N71-23268
- Spacecraft transponder and ground station radar system for mapping planetary surfaces  
[NASA-CASE-NPO-11001] c07 N72-21118
- Method and apparatus for providing active attitude control for spacecraft by converting any attitude motion of vehicle into simple rotational motion  
[NASA-CASE-HQN-10439] c21 N72-21624
- Design and development of thermomechanical pump for transmitting warming fluid through fluid circuit to control temperature of spacecraft instrumentation  
[NASA-CASE-NPO-11417] c15 N73-24513
- Deployable pressurized cell structure for a micrometeoroid detector  
[NASA-CASE-LAR-10295-1] c15 N74-21062
- SPACECRAFT LANDING**
- Non-reusable kinetic energy absorber for application in soft landing of space vehicles  
[NASA-CASE-XLE-00810] c15 N70-34861
- Plastic foam generator for space vehicle instrument payload package flotation in water landing  
[NASA-CASE-XLA-00838] c03 N70-36778
- Device for use in descending spacecraft as altitude sensor for actuating deceleration retrorockets  
[NASA-CASE-XMS-03792] c14 N70-41812
- SPACECRAFT LAUNCHING**
- Three stage motion restraining mechanism for restraining and damping three dimensional vibrational movement of gimballed package during launch of spacecraft  
[NASA-CASE-GSC-10306-1] c15 N71-24694
- Development and characteristics of squib actuated explosive disconnect for spacecraft

- release from launch vehicle  
[NASA-CASE-NPO-11330] c33 N73-26958
- SPACECRAFT MODELS**  
Space environment simulation system for measuring spacecraft electric field strength in plasma sheath  
[NASA-CASE-XLE-02038] c09 N71-16086
- SPACECRAFT MODULES**  
Radial module manned space station with artificial gravity environment  
[NASA-CASE-IMS-01906] c31 N70-41373  
Multi-mission space vehicle module stage design  
[NASA-CASE-XNF-01543] c31 N71-17730  
Design and development of spacecraft with outer shell structure heat shielding and built-in, removable excursion module  
[NASA-CASE-MSC-13047-1] c31 N71-25434  
Development and characteristics of thermal control system for maintaining constant temperature within spacecraft module with wide variations of component heat transfer  
[NASA-CASE-GSC-11018-1] c31 N73-30829
- SPACECRAFT POSITION INDICATORS**  
Device for determining relative angular position of spacecraft and radiating celestial body  
[NASA-CASE-GSC-11444-1] c14 N73-28490  
Spacecraft attitude sensing system design with narrow field of view sensor rotating about spacecraft x-y axis  
[NASA-CASE-GSC-10890-1] c21 N73-30640
- SPACECRAFT POWER SUPPLIES**  
Spacecraft battery seals  
[NASA-CASE-XGS-03864] c15 N69-24320  
Electrical power system for space flight vehicles operating over extended periods  
[NASA-CASE-XNF-00517] c03 N70-34157  
Lightweight, rugged, inexpensive satellite battery for producing electrical power from ionosphere using electrodes with different contact potentials  
[NASA-CASE-XGS-01593] c03 N70-35408  
Design and development of electric generator for space power system  
[NASA-CASE-XLE-04250] c09 N71-20446  
Monostable multivibrator for conserving power in spacecraft systems  
[NASA-CASE-GSC-10082-1] c10 N72-20221  
Rectangular solar cell stacked panels to generate electrical power aboard spacecraft  
[NASA-CASE-NPO-11771] c03 N73-20040  
Thermoelectric power system --- for spacecraft  
[NASA-CASE-MPS-22002-1] c44 N76-16612  
Solar energy power system  
[NASA-CASE-MPS-21628-2] c44 N76-23675
- SPACECRAFT PROPULSION**  
Colloidal particle generator for electrostatic engine for propelling space vehicles  
[NASA-CASE-XLE-00817] c28 N70-33265  
Spacecraft trajectory correction propulsion system  
[NASA-CASE-XNP-01104] c28 N70-39931  
Permanently magnetized ion engine casing construction for use in spacecraft propulsion systems  
[NASA-CASE-XNP-06942] c28 N71-23293  
Development of voice operated controller for controlling reaction jets of spacecraft  
[NASA-CASE-XLA-04063] c31 N71-33160
- SPACECRAFT RECOVERY**  
Assembly for opening flight capsule stabilizing and decelerating flaps with reference to capsule recovery  
[NASA-CASE-XNF-00641] c31 N70-36410  
Method for deployment of flexible wing glider from space vehicle with minimum impact and loading  
[NASA-CASE-XMS-00907] c02 N70-41630
- SPACECRAFT REENTRY**  
Manned space capsule configuration for orbital flight and atmospheric reentry  
[NASA-CASE-XLA-00149] c31 N70-37938  
Event recorder with constant speed motor which rotates recording disk  
[NASA-CASE-XLA-01832] c14 N71-21006
- SPACECRAFT SHIELDING**  
Development and characteristics of protective coatings for spacecraft  
[NASA-CASE-XNP-02507] c31 N71-17679  
Double-wall isothermal cylinder containing heat transfer fluid thermal reservoir as spacecraft insulation cover  
[NASA-CASE-MPS-20355] c33 N71-25353  
Binder stabilized zinc oxide pigmented coating for spacecraft thermal control  
[NASA-CASE-XNF-07770-2] c18 N71-26772
- SPACECRAFT STABILITY**  
Satellite stabilization reaction wheel scanner  
[NASA-CASE-XGS-02629] c14 N71-21082  
Attitude sensor  
[NASA-CASE-LAR-10586-1] c14 N74-15089  
Angular momentum control device used for stabilization of space vehicles and the like  
[NASA-CASE-LAR-11051-1] c15 N76-14158
- SPACECRAFT STRUCTURES**  
Collapsible, space erectable loop antenna system for space vehicle  
[NASA-CASE-XNF-00437] c07 N70-40202  
Electro-optical system for maintaining two-axis alignment during milling operations on large tank-sections  
[NASA-CASE-XNF-00908] c14 N70-40238  
Development of spacecraft radiator cover  
[NASA-CASE-MSC-12049] c31 N71-16080  
Design and construction of satellite appendage tie-down cord  
[NASA-CASE-XGS-02554] c31 N71-21064  
Development and characteristics of thermal sensitive panel for controlling ratio of solar absorptivity to surface emissivity for space vehicle temperature control  
[NASA-CASE-XLA-07728] c33 N71-22890  
Space expandable tether device for use as passageway between two docked spacecraft  
[NASA-CASE-XMS-10993] c15 N71-28936  
Delayed simultaneous appendage release mechanism for use on spacecraft equipped with despin mechanisms and releasable components  
[NASA-CASE-GSC-10814-1] c03 N73-20039  
Development of composite structures for spacecraft to serve as anti-meteoroid device  
[NASA-CASE-LAR-10788-1] c31 N73-20880  
Structural heat pipe --- for spacecraft wall thermal insulation system  
[NASA-CASE-GSC-11619-1] c34 N75-12222  
Auger attachment method for insulation --- of spacecraft  
[NASA-CASE-MSC-12615-1] c37 N76-19437
- SPACECRAFT TELEVISION**  
Electrically operated rotary shutter for television camera aboard spacecraft  
[NASA-CASE-XNP-00637] c14 N70-40273  
Conversion system for transforming slow scan rate of Apollo TV camera on moon to fast scan of commercial TV  
[NASA-CASE-XMS-07168] c07 N71-11300
- SPACECRAFT TRACKING**  
Spacecraft ranging system  
[NASA-CASE-NPO-10066] c09 N71-18598  
Elimination of tracking occultation problems occurring during continuous monitoring of interplanetary missions by using Earth orbiting communications satellite  
[NASA-CASE-IAC-06029-1] c31 N71-24813  
Tracking mount for laser telescope employed in tracking large rockets and space vehicles to give information regarding azimuth and elevation  
[NASA-CASE-MPS-14017] c14 N71-26627  
Orbital and entry tracking accessory for globes --- to provide range requirements for reentry vehicles to any landing site  
[NASA-CASE-LAR-10626-1] c14 N74-21015
- SPACECREWS**  
Development and characteristics of inflatable structure to provide escape from orbit for spacecrews under emergency conditions  
[NASA-CASE-XMS-06162] c31 N71-28851
- SPALLATION**  
Method of producing I-123 --- by bombardment of cesium causing spallation  
[NASA-CASE-LEW-11390-2] c25 N76-27383
- SPARK GAPS**  
Spark gap type protective circuit for fast sensing and removal of overvoltage conditions  
[NASA-CASE-IAC-08981] c09 N69-39897  
Mechanism for measuring nanosecond time differences between luminous events using streak camera  
[NASA-CASE-XLA-01987] c23 N71-23976

- Sustained arc ignition system --- across a spark gap  
[NASA-CASE-LEW-12444-1] c33 N75-25056
- SPARK IGNITION**  
High temperature spark plug for igniting liquid rocket propellants  
[NASA-CASE-XLE-00660] c28 N70-39925
- Sustained arc ignition system --- across a spark gap  
[NASA-CASE-LEW-12444-1] c33 N75-25056
- SPARK PLUGS**  
High temperature spark plug for igniting liquid rocket propellants  
[NASA-CASE-XLE-00660] c28 N70-39925
- SPATIAL DISTRIBUTION**  
Electronic recording system for spatial mass distribution of liquid rocket propellant droplets or vapors ejected from high velocity nozzles  
[NASA-CASE-NPO-10185] c10 N71-26339
- SPATIAL FILTERING**  
Photographic film restoration system using Fourier transformation lenses and spatial filter  
[NASA-CASE-MS-C-12448-1] c14 N72-20394
- Spatial filter for Q-switched lasers  
[NASA-CASE-LEW-12164-1] c16 N74-34010
- SPECTRAL REFLECTANCE**  
Single reflector interference spectrometer and drive system therefor  
[NASA-CASE-NPO-11932-1] c14 N74-23040
- SPECTROMETERS**  
Spectrometer using photoelectric effect to obtain spectral data  
[NASA-CASE-XNP-04161] c14 N71-15599
- Variable frequency nuclear magnetic resonance spectrometer providing drive signals over wide frequency range and minimizing noise effects  
[NASA-CASE-XNP-09830] c14 N71-26266
- Maksutov spectrograph for low light level research  
[NASA-CASE-XLA-10402] c14 N71-29041
- Dual purpose optical instrument capable of simultaneously acting as spectrometer and diffractometer  
[NASA-CASE-XNP-05231] c14 N73-28491
- Design of gamma ray spectrometer for measurement of intense radiation using Compton scattering effect  
[NASA-CASE-MPS-21441-1] c14 N73-30392
- Mossbauer spectrometer radiation detector  
[NASA-CASE-LAR-11155-1] c14 N74-15091
- Single reflector interference spectrometer and drive system therefor  
[NASA-CASE-NPO-11932-1] c14 N74-23040
- Ion and electron detector for use in an ICR spectrometer  
[NASA-CASE-NPO-13479-1] c14 N74-32890
- Spectrometer integrated with a facsimile camera  
[NASA-CASE-LAR-11207-1] c35 N75-19613
- Frequency scanning particle size spectrometer  
[NASA-CASE-NPO-13606-1] c35 N75-19627
- Resonant waveguide stark cell --- using microwave spectrometers  
[NASA-CASE-LAR-11352-1] c33 N75-26245
- Photoelectron spectrometer with means for stabilizing sample surface potential  
[NASA-CASE-NPO-13772-1] c35 N76-26450
- SPECTROPHOTOMETERS**  
Spectrophotofluorometer with 3-dimensional display to identify fluorescence spectra of carcinogenic and noncarcinogenic hydrocarbons  
[NASA-CASE-XGS-01231] c14 N70-41676
- Particle size spectrometer and refractometer  
[NASA-CASE-NPO-13614-1] c35 N75-19628
- High resolution Fourier interferometer-spectrophotopolarimeter  
[NASA-CASE-NPO-13604-1] c35 N76-31490
- SPECTROSCOPIC ANALYSIS**  
Cylindrical reflector for resolving wide angle light beam from telescope into narrow beam for spectroscopic analysis  
[NASA-CASE-XGS-08269] c23 N71-26206
- SPECTRUM ANALYSIS**  
Spectrometer using photoelectric effect to obtain spectral data  
[NASA-CASE-XNP-04161] c14 N71-15599
- Emission spectroscopy method for contamination monitoring of inert gas metal arc welding  
[NASA-CASE-XMP-02039] c15 N71-15871
- Method and apparatus for high resolution power spectrum analysis  
[NASA-CASE-NPO-10748] c08 N72-20177
- SPEECH RECOGNITION**  
Speech analyzer --- which provides information regarding amplitude, frequency, and phase of a speech waveform  
[NASA-CASE-GSC-11898-1] c32 N75-22563
- SPEED CONTROL**  
System for maintaining motor at predetermined speed using digital pulses  
[NASA-CASE-XMP-06892] c09 N71-24805
- Optimal control system for automatic speed regulation of electric driven motor vehicle  
[NASA-CASE-NPO-11210] c11 N72-20244
- Two speed drive system --- mechanical device for changing speed on rotating vehicle wheel  
[NASA-CASE-MPS-20645-1] c15 N74-23070
- Low speed phaselock speed control system --- for brushless dc motor  
[NASA-CASE-GSC-11127-1] c09 N75-24758
- SPEED REGULATORS**  
Feedback control for direct current motor to achieve constant speed under varying loads  
[NASA-CASE-MPS-14610] c09 N71-28886
- SPHERES**  
Guidance analyzer having suspended spacecraft simulating sphere for astronaut navigation  
[NASA-CASE-XNP-09572] c14 N71-15621
- Plastic sphere for radar tracking and calibration  
[NASA-CASE-XLA-11154] c07 N72-21117
- SPHERICAL SHELLS**  
Hollow spherical electrode for shielding dielectric junction between high voltage conductor and insulator  
[NASA-CASE-XLE-03778] c09 N69-21542
- Development of mechanical device for measuring distance of point within sphere from surface of sphere  
[NASA-CASE-XLA-06683] c14 N72-28436
- SPHERICAL TANKS**  
Gauge for measuring quantity of liquid in spherical tank in reduced gravity  
[NASA-CASE-XMS-06236] c14 N71-21007
- SPHERICAL WAVES**  
Electrical device for developing converging spherical shock waves  
[NASA-CASE-MPS-20890] c14 N72-22439
- SPHYMOGRAPHY**  
A logic-controlled occlusive cuff system  
[NASA-CASE-MS-C-14836-1] c52 N76-27839
- SPIKE NOZZLES**  
Constructing fluid spike nozzle to eliminate heat transfer and high temperature problems inherent in physical spikes  
[NASA-CASE-XGS-01143] c31 N71-15647
- SPIN DYNAMICS**  
Nutation damper for use on spinning body  
[NASA-CASE-GSC-11205-1] c15 N73-25513
- SPIN REDUCTION**  
Optical scanner mounted on rotating support structure with method of compensating for image or satellite rotation  
[NASA-CASE-XGS-02401] c14 N69-27485
- Bolt-latch mechanism for releasing despin weights from space vehicle  
[NASA-CASE-XLA-00679] c15 N70-38601
- Stretch Yo-Yo mechanism for reducing initial spin rate of space vehicle  
[NASA-CASE-XGS-00619] c30 N70-40016
- Stage separation system for spinning vehicles and payloads  
[NASA-CASE-XLA-02132] c31 N71-10582
- Flexible turnstile antenna system for reducing nutation in spin-oriented satellites  
[NASA-CASE-XMP-00442] c31 N71-10747
- SPIN STABILIZATION**  
Dynamic precession damping of spin-stabilized vehicles by using rate gyroscope and angular accelerometer  
[NASA-CASE-XLA-01989] c21 N70-34295
- Attitude orientation control of spin stabilized final stage space vehicles, using horizon scanners  
[NASA-CASE-XLA-00281] c21 N70-36943
- Attitude detection system using stellar references for three-axis control and spin stabilized spacecraft  
[NASA-CASE-XGS-03431] c21 N71-15642

- Spin phase synchronization of cartwheel satellite in polar orbit  
[NASA-CASE-XGS-05579] c31 N71-15676
- High velocity guidance and spin stabilization gyro-controlled jet reaction system for launch vehicle payloads  
[NASA-CASE-XLA-01339] c31 N71-15692
- Passive dual spin misalignment compensators --- gyro-stabilized device  
[NASA-CASE-GSC-11479-1] c21 N74-28097
- Deployable flexible ventral fins for use as an emergency spin recovery device in aircraft  
[NASA-CASE-LAR-10753-1] c02 N74-30421
- SPIRAL WRAPPING**  
Adjustable spiral wire winding device  
[NASA-CASE-XMS-02383] c15 N71-15918
- SPIRALS (CONCENTRATORS)**  
Spiral groove seal --- for hydraulic rotating shaft  
[NASA-CASE-LEW-10326-3] c15 N74-10474
- SPIROMETERS**  
Compact bellows spirometer for high speed and high altitude space travel  
[NASA-CASE-XAR-01547] c05 N69-21473
- SPLASHING**  
Splash groove fuel injector  
[NASA-CASE-LEW-12417-1] c07 N76-22198
- SPLINTS**  
Stretcher with rigid head and neck support with capability of supporting immobilized person in vertical position for removal from vehicle hatch to exterior also useful as splint stretcher  
[NASA-CASE-XMF-06589] c05 N71-23159
- SPORES**  
Lyophilized spore dispenser  
[NASA-CASE-LAR-10544-1] c15 N74-13178
- SPOT WELDS**  
Controlled arc spot welding method  
[NASA-CASE-XMF-00392] c15 N70-34814
- Automatic closed circuit television arc guidance control for welding joints  
[NASA-CASE-MFS-13046] c07 N71-19433
- Electric resistance spot welding and brazing for producing metal bonds with superior mechanical and structural characteristics  
[NASA-CASE-LAR-11072-1] c15 N73-20535
- SPRAYED COATINGS**  
Plasma spraying gun for forming diffusion bonded metal or ceramic coatings on substrates  
[NASA-CASE-XLE-01604-2] c15 N71-15610
- Production and application of sprayable fiber reinforced ablation material  
[NASA-CASE-XLA-04251] c18 N71-26100
- Metal plating process employing spraying of metallic power/peening particle mixture  
[NASA-CASE-GSC-11163-1] c15 N73-32360
- SPRAYERS**  
External device for liquid spray cooling of gas turbine blades  
[NASA-CASE-XLE-00037] c28 N70-33372
- Adhesive spray process for attaching biomedical skin electrodes  
[NASA-CASE-XPR-07658-1] c05 N71-26293
- Apparatus for liquid spray cooling of turbine blades  
[NASA-CASE-XLE-00027] c33 N71-29152
- Closed loop spray cooling apparatus --- for particle accelerator targets  
[NASA-CASE-LEW-11981-1] c37 N76-20486
- SPRAYING**  
Aircraft wheel spray drag alleviator for dual tandem landing gear  
[NASA-CASE-XLA-01583] c02 N70-36825
- SPREADING**  
Tool attachment for spreading or moving away loose elements from terminal posts during winding of filamentary elements  
[NASA-CASE-XMF-02107] c15 N71-10809
- SPRINGS (ELASTIC)**  
Belleville spring assembly with elastic guides having low hysteresis  
[NASA-CASE-XNP-09452] c15 N69-27504
- Multiple Belleville spring assembly with even load distribution  
[NASA-CASE-XNP-00840] c15 N70-38225
- Switching mechanism with energy stored in coil spring  
[NASA-CASE-XGS-00473] c03 N70-38713
- Load cell protection device using spring-loaded breakaway mechanism  
[NASA-CASE-XMS-06782] c32 N71-15974
- Vibration isolation system, using coaxial helical compression springs  
[NASA-CASE-NPO-11012] c15 N72-11391
- Spring operated accelerator and constant force spring mechanism therefor  
[NASA-CASE-ARC-10898-1] c37 N76-11441
- SPUTTERING**  
Deposition method for epitaxial beta SiC films having high degree of crystallographic perfection  
[NASA-CASE-ERC-10120] c26 N69-33482
- Development of procedure for producing thin transparent films of zinc oxide on transparent refractory substrate  
[NASA-CASE-PRC-10019] c15 N73-12487
- Technique and equipment for sputtering using apertured electrode and pulsed substrate bias  
[NASA-CASE-LEW-10920-1] c17 N73-24569
- Sputtering holes with ion beamlets  
[NASA-CASE-LEW-11646-1] c28 N74-31269
- Multitarget sequential sputtering apparatus  
[NASA-CASE-NPO-13345-1] c37 N75-19684
- Process for preparing liquid metal electrical contact device --- sputtering to remove metal oxides  
[NASA-CASE-LEW-11978-1] c33 N76-29490
- SQUARE WAVES**  
High speed phase detector design indicating phase relationship between two square wave input signals  
[NASA-CASE-XNP-01306-2] c09 N71-24596
- SQUARES (MATHEMATICS)**  
Apparatus for computing square roots  
[NASA-CASE-XGS-04768] c08 N71-19437
- SQUIBS**  
Contamination free separation nut eliminating combustion products from ambient surroundings generated by squib firing  
[NASA-CASE-XGS-01971] c15 N71-15922
- STABILITY TESTS**  
Method and apparatus for checking the stability of a setup for making reflection type holograms  
[NASA-CASE-MFS-21455-1] c16 N74-15146
- STABILIZATION**  
Electro-optical stabilization of calibrated light source  
[NASA-CASE-MSC-12293-1] c14 N72-27411
- System for controlling torque buildup in suspension of gondola connected to balloon by parachute shroud lines  
[NASA-CASE-GSC-11077-1] c02 N73-13008
- Development of aerodynamic control system to control flutter over large range of oscillatory frequencies using stability augmentation techniques  
[NASA-CASE-LAR-10682-1] c02 N73-26004
- Radiation hardening of MOS devices by boron --- for stabilizing gate threshold potential  
[NASA-CASE-GSC-11425-2] c76 N75-25730
- STABILIZED PLATFORMS**  
Hydraulic drive mechanism for leveling isolation platforms  
[NASA-CASE-XMS-03252] c15 N71-10658
- Failure detection and control means for improved drift performance of a gimbaled platform system  
[NASA-CASE-MFS-23551-1] c04 N76-26175
- STABILIZERS**  
Design and development of satellite despun device  
[NASA-CASE-XMF-08523] c31 N71-20396
- STABILIZERS (AGENTS)**  
Solid propellant stabilizer containing nitroguanidine  
[NASA-CASE-NPO-12000] c27 N72-25699
- STABILIZERS (FLUID DYNAMICS)**  
Assembly for opening flight capsule stabilizing and decelerating flaps with reference to capsule recovery  
[NASA-CASE-XMF-00641] c31 N70-36410
- Mechanical stabilization system for VTOL aircraft  
[NASA-CASE-XLA-06339] c02 N71-13422
- Attitude stabilizer for nonguided missile or vehicle with respect to trajectory  
[NASA-CASE-ARC-10134] c30 N72-17873
- Inflatable stabilizing system for use on life raft to reduce rocking and preclude capsizing  
[NASA-CASE-MSC-12393-1] c02 N73-26006

- Externally supported internally stabilized flexible duct joint  
[NASA-CASE-MFS-19194-1] c37 N76-14460
- STABLE OSCILLATIONS**  
Automatic measuring and recording of gain and zero drift characteristics of electronic amplifier  
[NASA-CASE-XMS-05562-1] c09 N69-39986
- STACKS**  
Remote fire stack igniter --- with solenoid-controlled valve  
[NASA-CASE-MFS-21675-1] c33 N74-33378
- STAGE SEPARATION**  
Stage separation using remote control release of joint with explosive insert  
[NASA-CASE-XLA-02854] c15 N69-27490  
Piezoelectric means for missile stage separation indication and stage initiation  
[NASA-CASE-XLA-00791] c03 N70-39930  
Space vehicle stage coupling and quick release separation mechanism  
[NASA-CASE-XLA-01441] c15 N70-41679  
Stage separation system for spinning vehicles and payloads  
[NASA-CASE-XLA-02132] c31 N71-10582  
Payload/spent rocket engine case separation system  
[NASA-CASE-XLA-05369] c31 N71-15687  
Separation mechanism for use between stages of multistage rocket vehicles  
[NASA-CASE-XLA-00189] c15 N71-22874  
Development of remotely controlled shaped charge for lateral displacement of rocket stages after separation  
[NASA-CASE-XLA-04804] c31 N71-23008  
Electrical circuit selection device for simulating stage separation of flight vehicle  
[NASA-CASE-XKS-04631] c10 N71-23663  
Frangible connecting link suitable for rocket stage separation  
[NASA-CASE-MSC-11849-1] c15 N72-22488
- STAGNATION PRESSURE**  
Flow meter for measuring stagnation pressure in boundary layer around high speed flight vehicle  
[NASA-CASE-XPR-02007] c12 N71-24692  
Stagnation pressure probe --- for measuring pressure of supersonic gas streams  
[NASA-CASE-LAR-11139-1] c14 N74-32878
- STAGNATION TEMPERATURE**  
Measuring conductive heat flow and thermal conductivity of laminar gas stream in cylindrical plug to simulate atmospheric reentry  
[NASA-CASE-XLE-00266] c14 N70-34156
- STAINING**  
Automated single-slide staining device  
[NASA-CASE-LAR-11649-1] c51 N76-13725
- STAINLESS STEELS**  
Joining aluminum to stainless steel by bonding aluminum coatings onto titanium coated stainless steel and brazing aluminum to aluminum/titanium coated steel  
[NASA-CASE-MFS-07369] c15 N71-20443  
Ultrasonic scanning system for in-place inspection of brazed tube joints  
[NASA-CASE-MFS-20767-1] c15 N74-15130  
Method of forming a wick for a heat pipe  
[NASA-CASE-NPO-13391-1] c34 N76-27515
- STAR TRACKERS**  
Star sensor system for roll attitude control of spacecraft  
[NASA-CASE-XNP-01307] c21 N70-41856  
Sun tracker with rotatable plane-parallel plate and two photocells  
[NASA-CASE-XGS-01159] c21 N71-10678  
Photomultiplier detector of Canopus for spacecraft attitude control  
[NASA-CASE-XNP-03914] c21 N71-10771  
Attitude detection system using stellar references for three-axis control and spin stabilized spacecraft  
[NASA-CASE-XGS-03431] c21 N71-15642  
Relay controlled voltage switching unit for scanning circuitry of star tracker  
[NASA-CASE-NPO-11253] c09 N72-17157  
Method for producing reticles for use in outer space  
[NASA-CASE-GSC-11188-2] c21 N73-19630  
Production method of star tracking reticles for transmitting in visible and near ultraviolet regions  
[NASA-CASE-GSC-11188-1] c14 N73-32320  
Strapped down gyroscope aligned with sun and star tracker optical axis calibrating roll, yaw and pitch values  
[NASA-CASE-ARC-10716-1] c31 N73-32784  
Formation of star tracking reticles  
[NASA-CASE-GSC-11188-3] c14 N74-20008  
Star scanner --- with a reticle with a pair of slits having differing separation  
[NASA-CASE-GSC-11569-1] c14 N74-30886  
A mount for continuously orienting a collector dish in a system adapted to perform both diurnal and seasonal solar tracking  
[NASA-CASE-MFS-23267-1] c44 N76-18679
- STARK EFFECT**  
Resonant waveguide stark cell --- using microwave spectrometers  
[NASA-CASE-LAR-11352-1] c33 N75-26245  
Stark-effect modulation of CO2 laser with NH2D  
[NASA-CASE-NPO-11945-1] c36 N76-18427
- STARTERS**  
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[NASA-CASE-MFS-20642] c14 N72-21407
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[NASA-CASE-XLE-00005] c28 N70-39899  
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of space vehicles under near-free flight  
conditions  
[NASA-CASE-XMF-03248] c11 N71-10604  
Supporting structure for simultaneous exposure  
of pellets to X rays  
[NASA-CASE-XNP-06031] c15 N71-15606  
Multilegged support system for wind tunnel test  
models subjected to thermal dynamic loading  
[NASA-CASE-XLA-01326] c11 N71-21481  
Adjustable support device with jacket screw for  
altering distance between base and supported  
member  
[NASA-CASE-NPO-10721] c15 N72-27484  
Hydrostatic bearing support  
[NASA-CASE-LEW-11158-1] c37 N76-19440

**SUPPORTS**  
Support techniques for restraint of slender  
bodies such as launch vehicles  
[NASA-CASE-XLA-02704] c11 N69-21540  
Pneumatic control of telescopic mirror support  
system  
[NASA-CASE-XLA-03271] c11 N69-24321  
Optical scanner mounted on rotating support  
structure with method of compensating for  
image or satellite rotation  
[NASA-CASE-IGS-02401] c14 N69-27485  
Support for flexible conductor cable between  
drawers or racks holding electronic equipment  
and cabinet assembly housing drawers or racks  
[NASA-CASE-XMF-07587] c15 N71-18701  
Swivel support for gas bearing for position  
adjustment between ball and supporting cup  
[NASA-CASE-XMF-07808] c15 N71-23812  
Tracking mount for laser telescope employed in  
tracking large rockets and space vehicles to  
give information regarding azimuth and elevation  
[NASA-CASE-MPS-14017] c14 N71-26627  
Gas bearing for model support with capacity for  
measuring angular displacement of model in  
bearing  
[NASA-CASE-XLA-09346] c15 N71-28740  
Adjustable rigid mount for trihedral mirror  
formed of alloy with small coefficient of  
thermal expansion supporting screws and  
spring-biased plates  
[NASA-CASE-XNP-08907] c23 N71-29123  
Slotted fine-adjustment support for optical  
devices  
[NASA-CASE-MPS-20249] c15 N72-11386  
Base support for expansible and contractible  
coupling between two members  
[NASA-CASE-NPO-11059] c15 N72-17454  
Optical mirror support system  
[NASA-CASE-XER-07896-2] c23 N72-22673  
Fixture for supporting articles during vibration  
tests comprising integral annular unit  
[NASA-CASE-MPS-20523] c14 N72-27412

Design and development of test stand system for  
supporting test items in vacuum chamber  
[NASA-CASE-MPS-21362] c11 N73-20267  
Collapsible support for antenna reflector  
applied to installation of spacecraft antennas  
[NASA-CASE-NPO-11751] c07 N73-24176  
Method of making porous conductive supports for  
electrodes --- by electroforming and stacking  
nickel foils  
[NASA-CASE-GSC-11367-1] c03 N74-19692  
Thrust-isolating mounting --- characteristics of  
support for loads mounted in spacecraft  
[NASA-CASE-MPS-21680-1] c32 N74-27397  
A mount for continuously orienting a collector  
dish in a system adapted to perform both  
diurnal and seasonal solar tracking  
[NASA-CASE-MPS-23267-1] c44 N76-18679

**SUPPRESSORS**  
Electronic background suppression field scanning  
sensor for detecting point source targets  
[NASA-CASE-XGS-05211] c07 N69-39980

**SURFACE DEFECTS**  
Surface defect detection by reflected microwave  
radiation pattern  
[NASA-CASE-ARC-10009-1] c15 N71-17822  
Method and device for detection of surface  
discontinuities or defects  
[NASA-CASE-MSC-14187-1] c14 N74-32879  
Window defect planar mapping technique  
[NASA-CASE-MSC-19442-1] c74 N75-22119

**SURFACE DIFFUSION**  
Metallic film diffusion into metal or ceramic  
surfaces for boundary lubrication in aerospace  
environments  
[NASA-CASE-XLE-01765] c18 N71-10772

**SURFACE FINISHING**  
Development of procedure for producing thin  
transparent films of zinc oxide on transparent  
refractory substrate  
[NASA-CASE-PRC-10019] c15 N73-12487  
Device and method for determining X ray  
reflection efficiency, scattering properties,  
and surface finish of optical surfaces  
[NASA-CASE-MPS-20243] c23 N73-13662  
Surface finishing --- particularly for use in  
smoothing irregularities on aluminum aircraft  
wings  
[NASA-CASE-MSC-12631-1] c02 N75-23476  
Solar cell surface treatment  
[NASA-CASE-LEW-11330-1] c44 N76-14612  
Method of treating the surface of a glass member  
[NASA-CASE-GSC-12110-1] c27 N76-23438  
Solar cell surface treatment  
[NASA-CASE-LEW-11330-2] c44 N76-33624

**SURFACE IONIZATION**  
Electrodes having array of small surfaces for  
field ionization  
[NASA-CASE-ERC-10013] c09 N71-26678  
Development of method and apparatus for  
detecting surface ions on silicon diodes and  
transistors  
[NASA-CASE-ERC-10325] c15 N72-25457

**SURFACE LAYERS**  
Bismuth and lead surface coatings for gas  
bearings in aerospace engineering  
[NASA-CASE-XGS-02011] c15 N71-20739  
Method and apparatus for stable silicon dioxide  
layers on silicon grown in silicon nitride  
ambient  
[NASA-CASE-ERC-10073-1] c06 N74-19769

**SURFACE PROPERTIES**  
Anti-wettable materials brazing processes using  
titanium and zirconium for surface pretreatment  
[NASA-CASE-XMS-03537] c15 N69-21471  
Ablation article and surface for analyzing flow  
transition on ablative surface  
[NASA-CASE-LAR-10439-1] c33 N73-27796  
Dual measurement ablation sensor  
[NASA-CASE-LAR-10105-1] c33 N74-15652  
Apparatus for scanning the surface of a  
cylindrical body  
[NASA-CASE-NPO-11861-1] c14 N74-20009  
Apparatus for microbiological sampling ---  
including automatic swabbing  
[NASA-CASE-LAR-11069-1] c35 N75-12272  
Method and apparatus for neutralizing potentials  
induced on spacecraft surfaces  
[NASA-CASE-GSC-11963-1] c33 N75-27265

- Optical instrument employing reticle having preselected visual response pattern formed thereon  
[NASA-CASE-ARC-10976-1] c74 N76-20959
- SURFACE REACTIONS**  
Chemical spot test for identifying magnesium or magnesium alloys used in aerospace applications  
[NASA-CASE-LAR-10953-1] c17 N73-27446
- SURFACE ROUGHNESS**  
Roughness detector for recording surface pattern of irregularities  
[NASA-CASE-XLA-00203] c14 N70-34161  
Optical apparatus for visual detection of roundness and regularity of cone surfaces  
[NASA-CASE-XMP-00462] c14 N70-34298  
Describing device for surveying contour of surface using X-Y plotter and traveling transducer  
[NASA-CASE-XLA-08646] c14 N71-17586
- SURFACE ROUGHNESS EFFECTS**  
Aerodynamically stable meteorological balloon using surface roughness effect  
[NASA-CASE-XMP-04163] c02 N71-23007
- SURFACE VEHICLES**  
Optimal control system for automatic speed regulation of electric driven motor vehicle  
[NASA-CASE-NPO-11210] c11 N72-20244  
Self-propelled vehicle with wheel, track laying, and walking capability for exploratory exploration  
[NASA-CASE-NPO-11366] c11 N73-26238  
Short range laser obstacle detector --- for surface vehicles using laser diode array  
[NASA-CASE-NPO-11856-1] c16 N74-15145  
Vehicle locating system utilizing AM broadcasting station carriers  
[NASA-CASE-NPO-13217-1] c32 N75-26194
- SURFACE WAVES**  
Development of method for suppressing excitation of electromagnetic surface waves on dielectric converter antenna  
[NASA-CASE-XLA-10772] c07 N71-28980  
Distributed feedback acoustic surface wave oscillator  
[NASA-CASE-NPO-13673-1] c33 N75-32323
- SURFACES**  
Techniques for recovery of multistage rocket vehicles by providing lifting surfaces on individual sections  
[NASA-CASE-XMP-00389] c31 N70-34176  
Kinetic and static friction force measurement between magnetic tape and magnetic head surfaces  
[NASA-CASE-XNP-08680] c14 N71-22995  
Three-axis adjustable loading structure  
[NASA-CASE-XMC-10051-1] c14 N74-13129  
Abrasion resistant coatings for plastic surfaces  
[NASA-CASE-ARC-10915-1] c27 N76-13292
- SURGES**  
Silicon controlled rectifier inverter with compensation of transients to avoid false gating  
[NASA-CASE-XLA-08507] c09 N69-39984  
Turn on current transient limiter for controlling peak current flow in high capacity load  
[NASA-CASE-GSC-10413] c10 N71-26531
- SURGICAL INSTRUMENTS**  
Ultrasonic device for ophthalmic eye surgery with safe removal of macerated material  
[NASA-CASE-LEW-11669-1] c05 N73-27062  
Ophthalmic liquification pump  
[NASA-CASE-LEW-12051-1] c52 N75-33640  
Improved tissue macerating instrument --- ophthalmic liquification pump  
[NASA-CASE-LEW-12668-1] c52 N76-23837
- SURVIVAL EQUIPMENT**  
Survival couch for aircraft or spacecraft crews  
[NASA-CASE-XLA-00118] c05 N70-33285  
Lightweight life preserver without fastening devices  
[NASA-CASE-XMS-00864] c05 N70-36493  
Pliable frame for sunglasses in emergency survival kits  
[NASA-CASE-XMS-06064] c05 N71-23096
- SUSPENDING (HANGING)**  
Parallel motion suspension device for measuring instruments  
[NASA-CASE-XNP-01567] c15 N70-41310  
Cable suspension and inclined walkway system for simulating reduced or zero gravity environments  
[NASA-CASE-XLA-01787] c11 N71-16028  
Suspended mass oscillation damper based on impact energy absorption for damping wind induced oscillations of tall stacks, antennas, and umbilical towers  
[NASA-CASE-LAR-10193-1] c15 N71-27146
- SUSPENDING (HIXING)**  
A 2 degree/90 degree laboratory scattering photometer  
[NASA-CASE-GSC-12088-1] c35 N76-17369
- SWEAT COOLING**  
Transpiration cooled turbine blade made from metallic or ceramic wires  
[NASA-CASE-XLE-00020] c15 N70-33226  
Transpirationally cooled heat ablation system for interplanetary spacecraft reentry shielding  
[NASA-CASE-XMS-02677] c31 N70-42075  
Method of electroforming a rocket chamber  
[NASA-CASE-LEW-11118-1] c15 N74-32919
- SWEEP CIRCUITS**  
Transistorized circuit for producing multiple slope voltage sweep  
[NASA-CASE-XMS-03542] c09 N71-28926
- SWEEP EFFECT**  
Supersonic or hypersonic vehicle control system comprising elevons with hinge line sweep and free of adverse aerodynamic cross coupling  
[NASA-CASE-XLA-08967] c02 N71-27088
- SWELLING**  
Para-benzoquinone dioxime and concentrated mineral acid processed to yield intumescent or fire resistant, heat insulating materials  
[NASA-CASE-ARC-10304-1] c18 N73-26572
- SWEPT WINGS**  
Design of supersonic aircraft with novel fixed, swept wing planform  
[NASA-CASE-XLA-04451] c02 N71-12243
- SWIRLING**  
Slush and swirl alleviator for liquid propellant tanks during transport and flight  
[NASA-CASE-XLA-05749] c15 N71-19569  
Swirl can, full-annulus combustion chambers for high performance gas turbine engines  
[NASA-CASE-LEW-11326-1] c23 N73-30665
- SWITCHES**  
Switching mechanism with energy stored in coil spring  
[NASA-CASE-XGS-00473] c03 N70-38713  
Digital memory system with multiple switch cores for driving each word location  
[NASA-CASE-XNP-01466] c10 N71-26434  
Radio frequency controlled solid state switch  
[NASA-CASE-ARC-10136-1] c09 N72-22202
- SWITCHING CIRCUITS**  
Solid state switching circuit design to increase current capacity of low rated relay contacts  
[NASA-CASE-XNP-09228] c09 N69-27500  
Power control switching circuit using low voltage semiconductor controlled rectifiers for high voltage isolation  
[NASA-CASE-XNP-02713] c10 N69-39888  
Selective gold diffusion on monolithic silicon chips for switching and nonswitching amplifier devices and circuits and linear and digital logic circuits  
[NASA-CASE-ERC-10072] c09 N70-11148  
Electrical power system for space flight vehicles operating over extended periods  
[NASA-CASE-XMP-00517] c03 N70-34157  
High speed low level voltage commutating switch  
[NASA-CASE-XAC-00060] c09 N70-39915  
Switching circuit with regeneratively connected transistors eliminating power consumption when not in use  
[NASA-CASE-XNP-02654] c10 N70-42032  
Using electron beam switching for brushless motor commutation  
[NASA-CASE-XGS-01451] c09 N71-10677  
Increasing power conversion efficiency of electronic amplifiers by power supply switching  
[NASA-CASE-XMS-00945] c09 N71-10798  
Silicon controlled rectifier pulse gate amplifier for blocking false gating caused by negative transient voltages  
[NASA-CASE-XLA-07497] c09 N71-12514  
Describing magnetic core current switching device for steering bipolar current pulses to memory units  
[NASA-CASE-NPO-10201] c08 N71-18694

- Transistorized dc-coupled multivibrator with noninverted output signal  
[NASA-CASE-XNP-09450] c10 N71-18723
- Reversible current directing circuitry for reversible motor control  
[NASA-CASE-XLA-09371] c10 N71-18724
- Constructing Exclusive-Or digital logic circuit in single module  
[NASA-CASE-XLA-07732] c08 N71-18751
- Polarization diversity monopulse tracking receiver design without radio frequency switches  
[NASA-CASE-XGS-03501] c09 N71-20864
- Sight switch using infrared source and sensor mounted beside eye  
[NASA-CASE-XMF-03934] c09 N71-22985
- Complementary regenerative transistorized switch circuit employing positive and negative feedback  
[NASA-CASE-XGS-02751] c09 N71-23015
- Reliable magnetic core circuit apparatus with application in selection matrices for digital memories  
[NASA-CASE-XNP-01318] c10 N71-23033
- Electric circuit for producing high current pulse having fast rise and fall time  
[NASA-CASE-XMS-04919] c09 N71-23270
- Electric circuit for reversing direction of current flow  
[NASA-CASE-XNP-00952] c10 N71-23271
- Switching series regulator with gating control network  
[NASA-CASE-XMS-09352] c09 N71-23316
- Microwave waveguide switch with rotor position control  
[NASA-CASE-XNP-06507] c09 N71-23548
- Signaling summary alarm circuit with semiconductor switch for faulty contact indications  
[NASA-CASE-XLE-03061-1] c10 N71-24798
- Solid state circuit for switching alternating current input signal as function of direct current gating transistor  
[NASA-CASE-XNP-06505] c10 N71-24799
- Inverters for changing direct current to alternating current  
[NASA-CASE-XGS-06226] c10 N71-25950
- Design and development of multistage current steering switch with inductively coupled magnetic cores  
[NASA-CASE-XNP-08567] c09 N71-26000
- Pulse duration control device for driving slow response time loads in selected sequence including switching and delay circuits and magnetic storage  
[NASA-CASE-XGS-04224] c10 N71-26418
- Turn on current transient limiter for controlling peak current flow in high capacity load  
[NASA-CASE-GSC-10413] c10 N71-26531
- Input radio frequency circuit for switching type absolute temperature measuring radiometer for noise sources  
[NASA-CASE-ERC-11020] c14 N71-26774
- Inverter drive circuit for semiconductor switch  
[NASA-CASE-LEW-10233] c10 N71-27126
- Phase locked demodulator with bandwidth switching amplifier circuit  
[NASA-CASE-XNP-01107] c10 N71-28859
- Monostable multivibrator for producing output pulse widths with positive feedback NOR gates  
[NASA-CASE-MSC-13492-1] c10 N71-28860
- Digital magnetic core memory with sensing amplifier circuits  
[NASA-CASE-XNP-01012] c08 N71-28925
- Current regulating voltage divider design with load current shunting  
[NASA-CASE-MPS-20935] c09 N71-34212
- Relay controlled voltage switching unit for scanning circuitry of star tracker  
[NASA-CASE-NPO-11253] c09 N72-17157
- Spacecraft solar cell system with switching circuit to provide compensation for environmental changes  
[NASA-CASE-GSC-10669-1] c03 N72-20031
- Flow rate switch for detecting variations in fluid flow velocity through conduits of pressurized systems  
[NASA-CASE-NPO-10722] c09 N72-20199
- Switching type voltage regulator with relatively simple circuit arrangement  
[NASA-CASE-LEW-11005-1] c09 N72-21243
- Development and characteristics of data multiplexer circuit using field effect transistors arranged in tree switching configuration  
[NASA-CASE-NPO-11333] c08 N72-22162
- Pulse coupling circuit with switch between generator and winding  
[NASA-CASE-LEW-10433-1] c09 N72-22197
- Solid state remote circuit selector switching circuit  
[NASA-CASE-LEW-10387] c09 N72-22201
- Pressure operated electrical switch responsive to pressure decrease after pressure increase  
[NASA-CASE-LAR-10137-1] c09 N72-22204
- Transistorized switching logic circuits with tunnel diodes  
[NASA-CASE-GSC-10878-1] c10 N72-22236
- Switching circuit for control of cathode ray tube beam with fast rise time for output signal  
[NASA-CASE-KSC-10647-1] c10 N72-31273
- Electronic video editor for switching video input signals to common output channel  
[NASA-CASE-KSC-10003] c10 N73-13235
- Solid state switch for variable circuit switching  
[NASA-CASE-NPO-10817-1] c08 N73-30135
- Transparent switchboard which permits optical display devices to be adapted for use in man machine communications  
[NASA-CASE-MSC-13746-1] c10 N73-32143
- High isolation RF signal selection switches  
[NASA-CASE-NPO-13081-1] c07 N74-22814
- The dc-to-dc converters employing staggered phase power switches with two loop control  
[NASA-CASE-NPO-13512-1] c33 N75-15876
- Isolated output system for a class D switching-mode amplifier  
[NASA-CASE-MPS-21616-1] c33 N75-30429
- Dual digital video switcher  
[NASA-CASE-KSC-10782-1] c33 N75-30431
- Multi-computer multiple data path hardware exchange system  
[NASA-CASE-NPO-13422-1] c60 N76-14818
- SWITCHING THEORY**
- Multiple circuit switch apparatus requiring minimum hand and eye movement by operator  
[NASA-CASE-XAC-03777] c10 N71-15909
- Magnetic tape head function switching system  
[NASA-CASE-GSC-11956-1] c35 N75-25134
- SWIVELS**
- Swivel support for gas bearing for position adjustment between ball and supporting cup  
[NASA-CASE-XMF-07808] c15 N71-23812
- SYNCHRONISM**
- Synchronizing apparatus for multi-access satellite time division multiplex system  
[NASA-CASE-XGS-05918] c07 N69-39974
- Circuitry for generating sync signals in FM communication systems including video information  
[NASA-CASE-XNP-10830] c07 N71-11281
- Development of method for synchronizing clocks at several ground stations based on signals received from spacecraft or satellites  
[NASA-CASE-XNP-08875] c10 N71-23099
- Pulse generator for synchronizing or resetting electronic signals without requiring separate external source  
[NASA-CASE-XGS-03632] c09 N71-23311
- Time synchronization system for synchronizing clocks at remote locations with master clock using moon reflected coded signals  
[NASA-CASE-NPO-10143] c10 N71-26326
- System designed to reduce time required for obtaining synchronization in data communication with spacecraft utilizing pseudonoise codes  
[NASA-CASE-NPO-10214] c10 N71-26577
- SYNCHRONIZED OSCILLATORS**
- Development of phase demodulation system with two phase locked loops  
[NASA-CASE-XNP-00777] c10 N71-19469
- Phase locked phase modulation system with voltage controlled oscillator for final phase linearity  
[NASA-CASE-XNP-05382] c10 N71-23544
- Automatic frequency control device for providing frequency reference for voltage controlled oscillator

[NASA-CASE-KSC-10393] c09 N72-21247

**SYNCHRONIZERS**

Development and characteristics of burst synchronization detection system [NASA-CASE-XMS-05605-1] c10 N71-19468

Time division relay synchronizer with master sync pulse for activating binary counter to produce signal identifying time slot for station [NASA-CASE-GSC-10373-1] c07 N71-19773

Design and development of synchronous servo loop control system [NASA-CASE-XNP-03744] c10 N71-20448

Digital synchronizer for extracting binary data in receiver of PSK/PCM communication system [NASA-CASE-NPO-10851] c07 N71-24613

Video sync processor with phase locked system [NASA-CASE-KSC-10002] c10 N71-25865

Pulse code modulated signal synchronizer [NASA-CASE-MSC-12462-1] c07 N74-20809

Pulse code modulated signal synchronizer [NASA-CASE-MSC-12494-1] c07 N74-20810

System for generating timing and control signals [NASA-CASE-NPO-13125-1] c33 N75-19519

Telemetry synchronizer [NASA-CASE-GSC-11868-1] c17 N76-22245

**SYNCHRONOUS MOTORS**

Synchronous dc direct-drive system comprising multiple-loop hybrid control system controlling load directly connected to actuator [NASA-CASE-GSC-10065-1] c10 N71-27136

Motor run-up system --- power lines [NASA-CASE-NPO-13374-1] c33 N75-19524

**SYNCHRONOUS SATELLITES**

Position locating system for remote aircraft, using voice communication and digital signals [NASA-CASE-GSC-10087-2] c21 N71-13958

Serrodyne traveling wave tube reentrant amplifier for synchronous communication satellites operating at microwave frequencies [NASA-CASE-XGS-01022] c07 N71-16088

Traffic control system for supersonic transports using synchronous satellite for data relay between vehicles and ground station [NASA-CASE-GSC-10087-1] c02 N71-19287

Tracking antenna system with array for synchronous satellite or ground based radar [NASA-CASE-GSC-10553-1] c07 N71-19854

Satellite network synchronization system with multiple access to multiplex repeater [NASA-CASE-GSC-10390-1] c07 N72-11149

Development of device for simulating charge and discharge cycle of battery in synchronous orbit [NASA-CASE-GSC-11211-1] c03 N72-25020

Camera arrangement --- for satellite scanning of earth or sky [NASA-CASE-GSC-12032-2] c35 N76-19408

**SYNTHESIS**

Synthesis of polymeric schiff bases by schiff-base exchange reactions [NASA-CASE-XMF-08651] c06 N71-11236

Preparation of ordered poly(arylenesiloxane) polymers [NASA-CASE-XMF-10753] c06 N71-11237

Synthesis and chemical properties of imidazopyrrolone/imide copolymers [NASA-CASE-XLA-08802] c06 N71-11238

Stable polyimide synthesis from mixtures of monomeric diamines and polycarboxylic acid esters [NASA-CASE-LEW-11325-1] c06 N73-27980

**SYNTHESIZERS**

Digitally controlled frequency synthesizer for pulse frequency modulation telemetry systems [NASA-CASE-XGS-02317] c09 N71-23525

**SYNTHETIC FIBERS**

Manufacture of fluid containers from fused coated polyester sheets having resealable septum [NASA-CASE-NPO-10123] c15 N71-24835

Structure of fabric layers for micrometeoroid protection garment with capability for eliminating heat shorts for use in manufacturing space suits [NASA-CASE-MSC-12109] c18 N71-26285

Flexible barrier membrane comprising porous substrate and incorporating liquid gallium or indium metal used as sealant barriers for spacecraft walls and pumping liquid propellants [NASA-CASE-XNP-08881] c17 N71-28747

**SYNTHETIC RESINS**

Process permitting application of synthetic resin coating to irregular-shaped objects at ambient temperature [NASA-CASE-XNP-06508] c18 N69-39895

**SYSTEM FAILURES**

Tape recorder designed for low power consumption and resistance to operational failure under high stress conditions [NASA-CASE-XGS-08259] c14 N71-23698

Fault tolerant clock apparatus utilizing a controlled minority of clock elements [NASA-CASE-MSC-12531-1] c35 N75-30504

**SYSTEMS ANALYSIS**

Analog to digital converter analyzing system [NASA-CASE-NPO-10560] c08 N72-22166

**SYSTEMS ENGINEERING**

Design of magnetohydrodynamic induction machine with end poles which produce compensating magnetic fields [NASA-CASE-XNP-07481] c25 N69-21929

Hovering type flying vehicle design and principle mechanisms for manned or unmanned use [NASA-CASE-MSC-12111-1] c02 N71-11039

Solar battery with interconnecting means for plural cells [NASA-CASE-XNP-06506] c03 N71-11050

Transparent polycarbonate resin, shell helmet and latch design for high altitude and space flight [NASA-CASE-XMS-04935] c05 N71-11190

Design and operation of multi-feed cone Cassegrain antenna [NASA-CASE-NPO-10539] c07 N71-11285

Method and apparatus for measuring potentials in plasmas [NASA-CASE-XLE-00821] c25 N71-15650

Design and operation of viscous pendulum damper [NASA-CASE-XLA-02079] c12 N71-16894

Alarm system design for monitoring one or more relay circuits [NASA-CASE-XMS-10984-1] c10 N71-19417

Wide range analog data compression system [NASA-CASE-XGS-02612] c08 N71-19435

Space suit body heat exchanger design composed of thermal conductance yarn and liquid coolant loops [NASA-CASE-XMS-09571] c05 N71-19439

Silicon radiation detecting probe design for in vivo biomedical use [NASA-CASE-XMS-01177] c05 N71-19440

Design and operation of high speed binary to decimal conversion system [NASA-CASE-XGS-01230] c08 N71-19544

Sputter proof evaporant source design for use in vacuum deposition of solid thin films on substrates [NASA-CASE-XMF-06065] c15 N71-20395

Method and apparatus for fabrication of heat insulating and ablative reentry structure [NASA-CASE-XMS-02009] c33 N71-20834

Polarization diversity monopulse tracking receiver design without radio frequency switches [NASA-CASE-XGS-03501] c09 N71-20864

Pneumatic cantilever beams and platform for space erectable structure [NASA-CASE-XLA-01731] c32 N71-21045

Magnetically opened diaphragm design with camera shutter and expansion tube applications [NASA-CASE-XLA-03660] c15 N71-21060

Portable apparatus producing high velocity annular air column surrounding low velocity, filtered, superclean air central core for industrial clean room environmental control [NASA-CASE-XMF-03212] c15 N71-22721

Rotary spindle lathe attachments for machining geometrical cones [NASA-CASE-XMS-04292] c15 N71-22722

Apparatus and method for spin forming tubular elbows with high strength, uniform thickness, and close tolerances [NASA-CASE-XMF-01083] c15 N71-22723

Spacecraft air lock system to provide ingress and egress of astronaut without subjecting vehicular environment to vacuum of space [NASA-CASE-XLA-02050] c31 N71-22968

Method of stationkeeping for lenticular gravity gradient satellites [NASA-CASE-XLA-03132] c31 N71-22969

Filler valve design for supplying liquid propellants at high pressure to space vehicles  
[NASA-CASE-XNP-01747] c15 N71-23024

Method and apparatus for producing very low temperature refrigeration based on gas pressure balance  
[NASA-CASE-XNP-08877] c15 N71-23025

Monitoring circuit design for sampling circuit control and reduction of time-bandwidth in video communication systems  
[NASA-CASE-XNP-02791] c07 N71-23026

Multisample test chamber for exposing materials to X rays, temperature change, and gaseous conditions and determination of material effects  
[NASA-CASE-XMS-02930] c11 N71-23042

Variable duration pulse integrator design for integrating pulse duration modulated pulses with elimination of ripple content  
[NASA-CASE-XLA-01219] c10 N71-23084

Sealed electrochemical cell with flexible casing for varying electrolyte level in cell  
[NASA-CASE-XGS-01513] c03 N71-23336

Mosaic semiconductor radiation detector and position indicator systems engineering for low energy particles  
[NASA-CASE-XGS-03230] c14 N71-23401

Device for measuring two orthogonal components of force with gallium flotation of measuring target for use in vacuum environments  
[NASA-CASE-XAC-04885] c14 N71-23790

Transducer circuit design with single coaxial cable for input and output connections including incorporation into miniaturized catheter transducer  
[NASA-CASE-ARC-10132-1] c09 N71-24597

Method of attaching cover glass to silicon solar cell without using adhesive  
[NASA-CASE-XLE-08569-2] c03 N71-24681

Development of attitude control system for sounding rocket stabilization during ballistic phase of flight  
[NASA-CASE-XGS-01654] c31 N71-24750

Temperature telemetric transmitter with frequency determining tank circuit for short range transmission  
[NASA-CASE-NPO-10649] c07 N71-24840

Tuning arrangement for frequency control of magnetron-type electron discharge device  
[NASA-CASE-XNP-09771] c09 N71-24841

Broadband modified turnstile antenna for use in space tracking and communications  
[NASA-CASE-MSC-12209] c09 N71-24842

Apparatus to determine electric field strength by measuring deflection of electron beam impinging on target  
[NASA-CASE-XMP-06617] c09 N71-24843

Binary to decimal decoder logic circuit design with feedback control and display device  
[NASA-CASE-XKS-06167] c08 N71-24890

Noninterruptible digital counter circuit design with display device for pulse frequency modulation  
[NASA-CASE-XNP-09759] c08 N71-24891

Quick disconnect duct coupling device for single-handed operation  
[NASA-CASE-MPS-20395] c15 N71-24903

Brushless dc tachometer design with Hall effect crystals and output voltage magnitude proportional to rotor speed  
[NASA-CASE-MPS-20385] c09 N71-24904

Pneumatic mechanism for releasing hook and loop fasteners between large rigid structures  
[NASA-CASE-XMS-10660-1] c15 N71-25975

Sealed fluorescent tube light unit capable of connection with other units to form string of work lights  
[NASA-CASE-XKS-05932] c09 N71-26787

Apparatus for semiautomatic inspection of microfilmed documents for density, resolution, size, and position  
[NASA-CASE-MPS-20240] c14 N71-26788

Method and apparatus for remote measurement of displacement of marks on specimen undergoing tensile test  
[NASA-CASE-NPO-10778] c14 N72-11364

Spacecraft solar cell system with switching circuit to provide compensation for environmental changes  
[NASA-CASE-GSC-10669-1] c03 N72-20031

Electric storage battery with high impact resistance  
[NASA-CASE-NPO-11021] c03 N72-20032

Method and apparatus for providing active attitude control for spacecraft by converting any attitude motion of vehicle into simple rotational motion  
[NASA-CASE-HQN-10439] c21 N72-21624

Development of light sensing system for controlled orientation of object relative to sun or other light source  
[NASA-CASE-NPO-11311] c14 N72-25414

Development of thrust control system for application to control of aircraft and spacecraft  
[NASA-CASE-MSC-13397-1] c21 N72-25595

Development of computer program for estimating reliability of self-repair and fault-tolerant systems with respect to selected system and mission parameters  
[NASA-CASE-NPO-13086-1] c15 N73-12495

Design and development of active control system for air cushion vehicle to reduce or eliminate effects of excessive vertical vibratory acceleration  
[NASA-CASE-LAR-10531-1] c02 N73-13023

Measurement system for physical quantity represented by or converted to variable frequency signal  
[NASA-CASE-MPS-20658-1] c14 N73-30386

Design of precision vertical alignment system using laser with gravitationally sensitive cavity  
[NASA-CASE-ARC-10444-1] c16 N73-33397

System for calibrating pressure transducer  
[NASA-CASE-LAR-10910-1] c14 N74-13132

Three mirror glancing incidence system for X-ray telescope  
[NASA-CASE-MPS-21372-1] c14 N74-27866

Holographic system for nondestructive testing  
[NASA-CASE-MPS-21704-1] c35 N75-25124

Improved solar heating system  
[NASA-CASE-LAR-12009-1] c44 N76-32649

## T

## TACHOMETERS

Digital cardi tachometer incorporating circuit for measuring heartbeat rate of subject over predetermined portion of one minute also converting rate to beats per minute  
[NASA-CASE-XMS-02399] c05 N71-22896

Brushless dc tachometer design with Hall effect crystals and output voltage magnitude proportional to rotor speed  
[NASA-CASE-MPS-20385] c09 N71-24904

Development of instantaneous reading tachometer for measuring electrocardiogram signal rate  
[NASA-CASE-MPS-20418] c14 N73-24473

Tachometer  
[NASA-CASE-MPS-23175-1] c35 N76-19409

## TAKEOFF

Aircraft instrument for indicating malfunctions during takeoff  
[NASA-CASE-XLA-00100] c14 N70-36807

Aircraft indicator for pilot control of takeoff roll, climbout path and verticle flight path in poor visibility conditions  
[NASA-CASE-XLA-00487] c14 N70-40157

## TANGENTS

Integrated circuit tangent function generator  
[NASA-CASE-MSC-13907-1] c10 N73-26230

## TANK GEOMETRY

Liquid propellant tank design with semitoroidal bulkhead  
[NASA-CASE-XMP-01899] c31 N70-41948

## TANKS (CONTAINERS)

Radiation source and detection system for measuring amount of liquid inside tanks independently of liquid configuration  
[NASA-CASE-MSC-12280] c27 N71-16348

Development of apparatus and method for testing leakage of large tanks  
[NASA-CASE-XMP-02392] c32 N71-24285

Design and development of device to prevent clogging in hoppers containing particulate materials  
[NASA-CASE-LAR-10961-1] c15 N73-12496

- Floating baffle for tank drain  
[NASA-CASE-KSC-10639] c15 N73-26472
- Method of producing a storage bulb for an atomic hydrogen maser  
[NASA-CASE-NPO-13050-1] c36 N75-15029
- TANTALUM**
- Oxygen-doped tantalum emitter for thermionic devices such as cesium vapor diodes  
[NASA-CASE-NPO-11138] c03 N70-34646
- Arc electrode of graphite with tantalum ball tip  
[NASA-CASE-XLE-04788] c09 N71-22987
- Organometallic compounds of niobium and tantalum useful for film deposition  
[NASA-CASE-XNP-04023] c06 N71-28808
- Tantalum modified ferritic iron base alloys --- for use in high temperature environments  
[NASA-CASE-LEW-12095-1] c26 N76-17233
- TANTALUM ALLOYS**
- Evaporating crucible of tantalum-tungsten foil, nickel alumina bonding agent, and ceramic coating  
[NASA-CASE-XLA-03105] c15 N69-27483
- TANTALUM CARBIDES**
- Thermal shock and erosion resistant tantalum carbide ceramic material  
[NASA-CASE-LAR-11902-1] c27 N76-23436
- TANTALUM OXIDES**
- Development of thin film temperature sensor from TaO<sub>2</sub>  
[NASA-CASE-NPO-11775] c26 N72-28761
- TAPE RECORDERS**
- Plural recorder system which limits signal recording to signals of sufficient interest  
[NASA-CASE-XMS-06949] c09 N69-21467
- Endless loop tape transport mechanism for driving and tensioning recording medium in magnetic tape recorder  
[NASA-CASE-XGS-01223] c07 N71-10609
- Development of low friction magnetic recording tape  
[NASA-CASE-XGS-00373] c23 N71-15978
- Tape guidance system for multichannel digital recording system  
[NASA-CASE-XNP-09453] c08 N71-19420
- Design and development of synchronous servo loop control system  
[NASA-CASE-XNP-03744] c10 N71-20448
- Development of data storage system for storing digital data in high density format on magnetic tape  
[NASA-CASE-XNP-02778] c08 N71-22710
- Digital telemetry system apparatus to reduce tape recorder wow and flutter noise during playback  
[NASA-CASE-XGS-01812] c07 N71-23001
- Tape recorder designed for low power consumption and resistance to operational failure under high stress conditions  
[NASA-CASE-XGS-08259] c14 N71-23698
- Transient video signal tape recorder with expanded playback  
[NASA-CASE-ARC-10003-1] c09 N71-25866
- Closed loop servosystem for variable speed tape recorders onboard spacecraft  
[NASA-CASE-NPO-10700] c07 N71-33613
- Design and characteristics of recording system for selective reproprocessing and filtering of data to obtain optimum signal to noise ratios  
[NASA-CASE-ERC-10112] c07 N72-21119
- Video tape recorder with scan conversion playback for color television signals  
[NASA-CASE-NPO-10166-1] c07 N73-22076
- Magnetic tape head function switching system  
[NASA-CASE-GSC-11956-1] c35 N75-25134
- Method of and means for testing a tape record/playback system  
[NASA-CASE-MPS-22671-2] c35 N75-31418
- Scan converting video tape recorder  
[NASA-CASE-NPO-10166-2] c35 N76-16391
- TAPERED COLUMNS**
- Method for shaping regeneratively cooled rocket motor casing having minimum thickness at each channel cross section  
[NASA-CASE-XLE-00409] c28 N71-15658
- Regeneratively cooled rocket motor casing with tapered channels to insure minimum thicknesses at each channel cross section for necessary strength requirements  
[NASA-CASE-XLE-05689] c28 N71-15659
- TARGET ACQUISITION**
- Acquisition and tracking system for optical radar  
[NASA-CASE-MPS-20125] c16 N72-13437
- Target acquisition antenna feed with reflector system  
[NASA-CASE-GSC-10064-1] c10 N72-22235
- Development of electronic detection system for remotely determining number and movement of enemy personnel  
[NASA-CASE-ARC-10097-2] c07 N73-25160
- TARGET RECOGNITION**
- Electronic background suppression field scanning sensor for detecting point source targets  
[NASA-CASE-XGS-05211] c07 N69-39980
- TARGETS**
- Simulator for practicing the mating of an observer-controlled object with a target  
[NASA-CASE-MPS-23052-1] c09 N75-25965
- TEFLON (TRADEMARK)**
- Reinforced FEP Teflon composite material diffusion bonded to metal substrate  
[NASA-CASE-MPS-20482] c15 N72-22492
- Method of producing a storage bulb for an atomic hydrogen maser  
[NASA-CASE-NPO-13050-1] c36 N75-15029
- Lead-oxygen dc power supply system having a closed loop oxygen and water system  
[NASA-CASE-MPS-23059-1] c44 N76-27664
- TELECOMMUNICATION**
- Adaptive compression signal processor for PCM communication systems  
[NASA-CASE-XLA-03076] c07 N71-11266
- Circuitry for generating sync signals in FM communication systems including video information  
[NASA-CASE-XNP-10830] c07 N71-11281
- Automatic estimation of signal to noise ratio and other parameters in signal communication systems  
[NASA-CASE-XNP-05254] c07 N71-20791
- Digital synchronizer for extracting binary data in receiver of PSK/PCM communication system  
[NASA-CASE-NPO-10851] c07 N71-24613
- Encoders designed to generate comma free biorthogonal Reed-Muller type code comprising conversion of 64 6-bit words into 64 32-bit data for communication purposes  
[NASA-CASE-NPO-10595] c10 N71-25917
- Multicarrier communications system for transmitting modulated signals from single transmitter  
[NASA-CASE-NPO-11548] c07 N73-26118
- Synchronized digital communication system  
[NASA-CASE-XNP-03623] c09 N73-28084
- Coherent receiver employing nonlinear coherence detection for carrier tracking  
[NASA-CASE-NPO-11921-1] c07 N74-30523
- Pseudo-noise test set for communication system evaluation --- test signals  
[NASA-CASE-MPS-22671-1] c35 N75-21582
- Modulator for tone and binary signals --- phase of modulation of tone and binary signals on carrier waves in communication systems  
[NASA-CASE-GSC-11743-1] c32 N75-24981
- TELEMETRY**
- Fabrication of pressure-telemetry transducers  
[NASA-CASE-XNP-09752] c14 N69-21541
- Telemetry data unit to form multibit words for use between demodulator and computer  
[NASA-CASE-XNP-09225] c09 N69-24333
- Development of telemetry system for position location and data acquisition  
[NASA-CASE-GSC-10083-1] c30 N71-16090
- Telespectrograph for analyzing upper atmosphere by tracking bodies reentering atmosphere at high velocities  
[NASA-CASE-XLA-03273] c14 N71-18699
- Digitally controlled frequency synthesizer for pulse frequency modulation telemetry systems  
[NASA-CASE-XGS-02317] c09 N71-23525
- Time division multiplexed telemetry transmitting system controlled by programmed memory  
[NASA-CASE-GSC-10131-1] c07 N71-24624
- Temperature telemetric transmitter with frequency determining tank circuit for short range transmission  
[NASA-CASE-NPO-10649] c07 N71-24840
- System designed to reduce time required for obtaining synchronization in data

- communication with spacecraft utilizing pseudonoise codes  
[NASA-CASE-NPO-10214] c10 N71-26577
- Zero power telemetry actuated switch for biomedical equipment  
[NASA-CASE-ABC-10105] c09 N72-17153
- Development and characteristics of telemetry system using computer-accessed circuits and remotely controlled from ground station  
[NASA-CASE-NPO-11358] c07 N72-25172
- Control and information system for digital telemetry data using analog converter to digitize sensed parameter values  
[NASA-CASE-NPO-11016] c08 N72-31226
- Characteristics of two channel telemetry system with two data rate channels for high and low data rate communication  
[NASA-CASE-NPO-11572] c07 N73-16121
- Telemetry and transmission system with programmed sampling and multiplexing  
[NASA-CASE-GSC-11388-1] c07 N73-24187
- Improved phase lock loop for receiver in multichannel telemetry system with suppressed carrier  
[NASA-CASE-NPO-11593-1] c07 N73-28012
- Telemetry synchronizer  
[NASA-CASE-GSC-11868-1] c17 N76-22245
- TELEOPERATORS**
- Cooperative multiaxis sensor for teleoperation of article manipulating apparatus  
[NASA-CASE-NPO-13386-1] c54 N75-27758
- TELEPHONY**
- Digital communication system  
[NASA-CASE-MSC-13912-1] c07 N74-30524
- TELESCOPES**
- Pneumatic control of telescopic mirror support system  
[NASA-CASE-XLA-03271] c11 N69-24321
- Tracking mount for laser telescope employed in tracking large rockets and space vehicles to give information regarding azimuth and elevation  
[NASA-CASE-MFS-14017] c14 N71-26627
- Development of reflector system for application to line-of-sight pointing and tracking telescopes  
[NASA-CASE-NPO-10468] c23 N71-33229
- Design and development of light sensing device for controlling orientation of object relative to sun or other light source  
[NASA-CASE-NPO-11201] c14 N72-27409
- Borescope with adjustable hinged telescoping optical system  
[NASA-CASE-MFS-15162] c14 N72-32452
- Ritchey-Chretien telescope responsive to images located off telescope optical axis  
[NASA-CASE-GSC-11487-1] c14 N73-30393
- Servo-controlled intravital microscope system  
[NASA-CASE-NPO-13214-1] c35 N75-25123
- TELETYPEWRITER SYSTEMS**
- Teletypewriter video communication system and apparatus  
[NASA-CASE-XNP-06611] c07 N71-26102
- TELEVISION CAMERAS**
- Electrically operated rotary shutter for television camera aboard spacecraft  
[NASA-CASE-XNP-00637] c14 N70-40273
- TV camera output signal control system for digital spacecraft communication  
[NASA-CASE-XNP-01472] c14 N70-41807
- Solid state television camera system consisting of monolithic semiconductor mosaic sensor and molecular digital readout systems  
[NASA-CASE-XMF-06092] c07 N71-24612
- Color television system for allowing monochrome television camera to produce color pictures  
[NASA-CASE-MSC-12146-1] c07 N72-17109
- Optical conversion method  
[NASA-CASE-MSC-12618-1] c74 N76-18917
- TV fatigue crack monitoring system  
[NASA-CASE-LAR-11490-1] c35 N76-28530
- TELEVISION EQUIPMENT**
- Conversion system for transforming slow scan rate of Apollo TV camera on moon to fast scan of commercial TV  
[NASA-CASE-XMS-07168] c07 N71-11300
- Automatic closed circuit television arc guidance control for welding joints  
[NASA-CASE-MFS-13046] c07 N71-19433
- Color television system utilizing single gun current sensitive color cathode ray tube  
[NASA-CASE-ERC-10098] c09 N71-28618
- Television multiplexing system, using single crystal controlled clock for signal synchronization  
[NASA-CASE-RSC-10654-1] c07 N73-30115
- Rotating raster generator  
[NASA-CASE-PRC-10071-1] c07 N74-20813
- Auditory display for the blind  
[NASA-CASE-HQN-10832-1] c14 N74-21014
- Spacecraft docking and alignment system --- using television camera system  
[NASA-CASE-MSC-12559-1] c18 N76-14186
- TELEVISION RECEIVERS**
- Improvements in receiver of narrow bandwidth television system  
[NASA-CASE-XMS-06740-1] c07 N71-26579
- TELEVISION SYSTEMS**
- Electron beam scanning system for improved image definition and reduced power requirements for video signal transmission  
[NASA-CASE-ERC-10552] c09 N71-12539
- Development and characteristics of burst synchronization detection system  
[NASA-CASE-XMS-05605-1] c10 N71-19468
- Improvements in receiver of narrow bandwidth television system  
[NASA-CASE-XMS-06740-1] c07 N71-26579
- Stereoscopic television system, including projecting pair of binocular images  
[NASA-CASE-ARC-10160-1] c23 N72-27728
- TELEVISION TRANSMISSION**
- Television simulation for aircraft and space flight  
[NASA-CASE-XPR-03107] c09 N71-19449
- Automatic frequency control for FM transmitter  
[NASA-CASE-MFS-21540-1] c07 N74-19790
- Television noise reduction device  
[NASA-CASE-MSC-12607-1] c32 N75-21485
- TEMPER (METALLURGY)**
- Method of producing complex aluminum alloy parts of high temper, and products thereof  
[NASA-CASE-MSC-19693-1] c26 N76-29401
- TEMPERATURE**
- Fluorinated esters of polycarboxylic acid and lubricating compositions for use at extreme temperature  
[NASA-CASE-MFS-21040-1] c06 N73-30098
- TEMPERATURE COMPENSATION**
- Temperature compensated solid state differential amplifier with application in bioinstrumentation circuits  
[NASA-CASE-XAC-00435] c09 N70-35440
- Variable frequency magnetic coupled multivibrator with temperature compensated frequency control circuit  
[NASA-CASE-XGS-00458] c09 N70-38604
- Matched thermistors for microwave power meters with compensation for temperature changes  
[NASA-CASE-NPO-10348] c10 N71-12554
- Development of temperature compensated thrust measuring gage for measuring forces as function of time in environment with varying temperature  
[NASA-CASE-XGS-02319] c14 N71-22965
- Variable frequency subcarrier oscillator with temperature compensation  
[NASA-CASE-XNP-03916] c09 N71-28810
- Omnidirectional liquid filled accelerometer design with liquid and housing temperature compensation  
[NASA-CASE-HQN-10780] c14 N71-30265
- Development of thermal compensating structure which maintains uniform length with changes in temperature  
[NASA-CASE-MFS-20433] c15 N72-28496
- Development of temperature compensated light source with components and circuitry for maintaining luminous intensity independent of temperature variations  
[NASA-CASE-ARC-10467-1] c09 N73-14214
- TEMPERATURE CONTROL**
- Method and apparatus using temperature control for wavelength tuning of liquid lasers  
[NASA-CASE-ERC-10187] c16 N69-31343
- Ultraviolet radiation resistant alkali-metal silicate coatings for temperature control of spacecraft



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## TEMPERATURE MEASURING INSTRUMENTS

[NASA-CASE-XGS-04119] c18 N69-39979  
 Passive thermal control coating on aluminum foil laminate for inflatable spacecraft surfaces  
 [NASA-CASE-XLA-01291] c33 N70-36617  
 Thermal switch for transferring excess heat from one region to another heat dissipating one  
 [NASA-CASE-XNP-00463] c33 N70-36847  
 Sandwich panel structure for removing heat from shield between hot and cold areas  
 [NASA-CASE-XLA-00349] c33 N70-37979  
 Device for adding water to high velocity exhaust jets to reduce velocity, noise, and temperature  
 [NASA-CASE-XNP-01813] c28 N70-41582  
 Modifying existing solar cells for temperature control  
 [NASA-CASE-NPO-10109] c03 N71-11049  
 Temperature sensor warning system for pneumatic tires of aircraft and ground vehicles  
 [NASA-CASE-XLA-01926] c14 N71-15620  
 Intermittent type silica gel adsorption refrigerator for providing temperature control for spacecraft components  
 [NASA-CASE-XNP-00920] c15 N71-15906  
 Using heat control unit to preheat circulating fluid  
 [NASA-CASE-XNP-04237] c33 N71-16278  
 Mounting apparatus for temperature control system  
 [NASA-CASE-NPO-10138] c33 N71-16357  
 Design and development of device for cooling inner conductor of coaxial cable  
 [NASA-CASE-XNP-09775] c09 N71-20445  
 Thermal control wall panel with application to spacecraft cabins  
 [NASA-CASE-XLA-01243] c33 N71-22792  
 Development and characteristics of thermal sensitive panel for controlling ratio of solar absorptivity to surface emissivity for space vehicle temperature control  
 [NASA-CASE-XLA-07728] c33 N71-22890  
 Method and apparatus for adjusting thermal conductance in electronic components for space use  
 [NASA-CASE-XNP-05524] c33 N71-24876  
 Device for rapid adjustment and maintenance of temperature in electronic components  
 [NASA-CASE-XNP-02792] c14 N71-28958  
 Automatic control device for regulating inlet water temperature of liquid cooled spacesuit  
 [NASA-CASE-MSC-13917-1] c05 N72-15098  
 Development of method for controlling vapor content of gas  
 [NASA-CASE-NPO-10633] c03 N72-28025  
 Atomic hydrogen maser with bulb temperature control by output frequency difference signal for wall shift elimination  
 [NASA-CASE-HQN-10654-1] c16 N73-13489  
 Design and development of thermomechanical pump for transmitting warming fluid through fluid circuit to control temperature of spacecraft instrumentation  
 [NASA-CASE-NPO-11417] c15 N73-24513  
 Automatic temperature control for liquid cooled space suit  
 [NASA-CASE-ARC-10599-1] c05 N73-26071  
 Temperature control system comprised of wheatstone bridge with RC circuit  
 [NASA-CASE-NPO-11304] c14 N73-26430  
 Development and characteristics of thermal control system for maintaining constant temperature within spacecraft module with wide variations of component heat transfer  
 [NASA-CASE-GSC-11018-1] c31 N73-30829  
 Apparatus for controlling the temperature of balloon-borne equipment  
 [NASA-CASE-GSC-11620-1] c14 N74-23039  
 Self-regulating proportionally controlled heating apparatus and technique  
 [NASA-CASE-GSC-11752-1] c77 N75-20140  
 Cryostat system for temperatures on the order of 2 deg K or less  
 [NASA-CASE-NPO-13459-1] c31 N75-29277  
 Rocket chamber and method of making  
 [NASA-CASE-LEW-11118-2] c20 N76-14191  
 Thermostatically controlled non-tracking type solar energy concentrator  
 [NASA-CASE-NPO-13497-1] c44 N76-14602  
**TEMPERATURE DISTRIBUTION**  
 Oven for heat treating heat shields  
 [NASA-CASE-XMS-04318] c15 N69-27871

## TEMPERATURE EFFECTS

Shock and vibration damping device using temperature sensitive solid amorphous polymers  
 [NASA-CASE-XAC-11225] c14 N69-27486  
 Differential pressure cell insensitive to changes in ambient temperature and extreme overload  
 [NASA-CASE-XAC-00042] c14 N70-34816  
 Fluid flow control valve for regulating fluids in molecular quantities  
 [NASA-CASE-XLE-00703] c15 N71-15967  
 Describing device for changing flow rate of fluid in duct in response to change in temperature  
 [NASA-CASE-MPS-14259] c15 N71-19213  
 Temperature sensitive magnetometer with pulsating thermally cycled magnetic core  
 [NASA-CASE-XAC-03740] c14 N71-26135  
 Development of system with electrical properties which vary with changes in temperature for use with feedback loop in operational amplifier circuit  
 [NASA-CASE-MSC-13276-1] c14 N71-27058

## TEMPERATURE GRADIENTS

Differential thermopile for measuring cooling water temperature rise  
 [NASA-CASE-XAC-00812] c14 N71-15598  
 Development of temperature compensated light source with components and circuitry for maintaining luminous intensity independent of temperature variations  
 [NASA-CASE-ARC-10467-1] c09 N73-14214  
 Method for compression molding of thermosetting plastics utilizing a temperature gradient across the plastic to cure the article  
 [NASA-CASE-LAR-10489-1] c15 N74-18124  
 Method and apparatus for checking fire detectors  
 [NASA-CASE-GSC-11600-1] c14 N74-21019

## TEMPERATURE MEASUREMENT

Filter arrangement for controlling light intensity in motion picture camera used in optical pyrometry  
 [NASA-CASE-XLA-00062] c14 N70-33254  
 Development of apparatus for measuring thermal conductivity  
 [NASA-CASE-XGS-01052] c14 N71-15992  
 Design and characteristics of thermocouples consisting of flexible tape for improved attachment to temperature source  
 [NASA-CASE-XNP-01659] c14 N71-23039  
 Black body cavity radiometer with thermal resistance wire bridge circuit  
 [NASA-CASE-XNP-08961] c14 N71-24809  
 Design, development, and characteristics of pressure and temperature sensor operating immersed in fluid flow  
 [NASA-CASE-LEW-10281-1] c14 N72-17327  
 Development of thermocouple instrument for measuring temperature of wall heated by flowing fluid without disturbing boundary layer  
 [NASA-CASE-XLE-05230] c14 N72-27410  
 Thermocouple apparatus for measuring wall temperatures in regeneratively cooled rocket engines having thin walled cooling passages  
 [NASA-CASE-XLE-05230-2] c14 N73-13417  
 Thermochromic compositions for detecting heat levels in electronic circuits and devices  
 [NASA-CASE-NPO-10764-1] c14 N73-14428  
 Method of fabricating an article with cavities --- with thin bottom walls  
 [NASA-CASE-LAR-10318-1] c14 N74-18089  
 Method for determining thermo-physical properties of specimens --- photographic recording of changes in thin film phase-change temperature indicating material in wind tunnel  
 [NASA-CASE-LAR-11053-1] c33 N74-18551  
 Thermocouple installation  
 [NASA-CASE-NPO-13540-1] c35 N75-12276  
 Wind sensor  
 [NASA-CASE-NPO-13462-1] c35 N76-24524  
 Miniature ingestible telemeter devices to measure deep-body temperature  
 [NASA-CASE-ARC-10583-1] c52 N76-29894

## TEMPERATURE MEASURING INSTRUMENTS

Temperature sensor warning system for pneumatic tires of aircraft and ground vehicles  
 [NASA-CASE-XLA-01926] c14 N71-15620  
 Electric network for monitoring temperatures, detecting critical temperatures, and

## TEMPERATURE PROBES

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indicating critical time duration  
[NASA-CASE-XNP-01097] c10 N71-16058

Electromagnetic energy detection by thermal  
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[NASA-CASE-NPO-13690-1] c27 N76-13294
- THERMIONIC DIODES**
- Electric power system utilizing thermionic plasma diodes in parallel and heat pipes as cathodes  
[NASA-CASE-XNP-05843] c03 N71-11055
- Thermionic diode switch for use in high temperature region to chop current from dc source  
[NASA-CASE-NPO-10404] c03 N71-12255
- Micromicroampere current measuring circuit, with two subminiature thermionic diodes with filament cathodes  
[NASA-CASE-XNP-00384] c09 N71-13530
- Electric power system with thermionic diodes and circulatory liquid metal coolant lines  
[NASA-CASE-NPS-14114] c33 N71-27862
- Reactor heated in-core diodes for energy conversion  
[NASA-CASE-NPO-10542] c09 N72-27228
- High temperature oxidation resistant cermet compositions --- for use in thermionic converters or diodes  
[NASA-CASE-NPO-13666-1] c27 N76-13293
- High temperature resistant cermet and ceramic compositions --- for use in thermionic converters or diodes  
[NASA-CASE-NPO-13690-1] c27 N76-13294
- THERMIONIC EMITTERS**
- Oxygen-doped tantalum emitter for thermionic devices such as cesium vapor diodes  
[NASA-CASE-NPO-11138] c03 N70-34646
- THERMIONIC POWER GENERATION**
- Control for nuclear thermionic power source --- power supply circuits, energy policy  
[NASA-CASE-NPO-13114-2] c44 N76-15573
- THERMISTORS**
- Matched thermistors for microwave power meters with compensation for temperature changes  
[NASA-CASE-NPO-10348] c10 N71-12554
- Thermistor holder for skin temperature measurements  
[NASA-CASE-ARC-10855-1] c52 N75-33642
- THERMOCHROMATIC MATERIALS**
- Thermochromic compositions for detecting heat levels in electronic circuits and devices  
[NASA-CASE-NPO-10764-1] c14 N73-14428
- Heat detection and compositions and devices therefor  
[NASA-CASE-NPO-10764-2] c35 N75-25122
- THERMOCOUPLE PYROMETERS**
- Dual measurement ablation sensor  
[NASA-CASE-LAR-10105-1] c33 N74-15652
- THERMOCOUPLES**
- Heat flux sensor assembly with proviso for heat shield to reduce radiative transfer between

- sensor elements  
[NASA-CASE-XMS-05909-1] c14 N69-27459
- Gas cooled high temperature thermocouple  
[NASA-CASE-XLE-09475-1] c33 N71-15568
- Control of fusion welding through use of thermocouple wire  
[NASA-CASE-NFS-06074] c15 N71-20393
- Heat sensing instrument, using thermocouple junction connected under heavy conducting material  
[NASA-CASE-XLA-01551] c14 N71-22989
- Design and characteristics of thermocouples consisting of flexible tape for improved attachment to temperature source  
[NASA-CASE-XNP-01659] c14 N71-23039
- Mixed liquid and vapor phase analyzer design with thermocouples for relative heat transfer measurement  
[NASA-CASE-NPO-10691] c14 N71-26199
- Development of thermocouple instrument for measuring temperature of wall heated by flowing fluid without disturbing boundary layer  
[NASA-CASE-XLE-05230] c14 N72-27410
- Thermocouple apparatus for measuring wall temperatures in regeneratively cooled rocket engines having thin walled cooling passages  
[NASA-CASE-XLE-05230-2] c14 N73-13417
- Development of flexible thermocouple in form of tape for adaptation to special temperature measuring conditions  
[NASA-CASE-LEW-11072-1] c14 N73-24472
- Thermocouple installation  
[NASA-CASE-NPO-13540-1] c35 N75-12276
- Thermocouples of tantalum and rhenium alloys for more stable vacuum-high temperature performance  
[NASA-CASE-LEW-12050-1] c35 N76-13454
- Thermocouple tape --- developed from thermoelectrically different metals  
[NASA-CASE-LEW-11072-2] c35 N76-15434
- Thermocouples of molybdenum and iridium alloys for more stable vacuum-high temperature performance  
[NASA-CASE-LEW-12174-1] c35 N76-19407
- THERMODYNAMIC PROPERTIES**
- Development of equipment for measuring thermal shock resistance of thin discs of material  
[NASA-CASE-XLE-02024] c14 N71-22964
- Characteristics of foamed-in-place ceramic refractory insulating material and method of fabrication  
[NASA-CASE-XGS-02435] c18 N71-22998
- Operating properties of superconducting magnet in vacuum environment  
[NASA-CASE-XNP-06503] c23 N71-29049
- Cobalt-tungsten alloys with superior strength at elevated temperatures  
[NASA-CASE-LEW-10436-1] c17 N73-32415
- THERMOELECTRIC GENERATORS**
- Use of silicon controlled rectifier shorting circuit to protect thermoelectric generator source from thermal destruction  
[NASA-CASE-XGS-04808] c03 N69-25146
- Procedure for segmenting lead telluride and silicon germanium thermoelectric elements to obtain composite elements effective over wide temperature range  
[NASA-CASE-XGS-05718] c26 N71-16037
- Low weight, integrated thermoelectric generator/antenna combination for spacecraft  
[NASA-CASE-XER-09521] c09 N72-12136
- Thermally cascaded thermoelectric generator with radioisotopic heat source  
[NASA-CASE-NPO-10753] c03 N72-26031
- THERMOELECTRIC MATERIALS**
- Bonding method for improving contact between lead telluride thermoelectric elements and tungsten electrodes  
[NASA-CASE-XGS-04554] c15 N69-39786
- Procedure for segmenting lead telluride and silicon germanium thermoelectric elements to obtain composite elements effective over wide temperature range  
[NASA-CASE-XGS-05718] c26 N71-16037
- THERMOELECTRIC POWER GENERATION**
- Thermoelectric power conversion by liquid metal flowing through magnetic field  
[NASA-CASE-XNP-00644] c03 N70-36803
- Operation method for combined electrolysis device and fuel cell using molten salt to produce power by thermoelectric regeneration mechanism  
[NASA-CASE-XLE-01645] c03 N71-20904
- Thermoelectric power system --- for spacecraft  
[NASA-CASE-NFS-22002-1] c44 N76-16612
- THERMOELECTRICITY**
- Development of flexible thermocouple in form of tape for adaptation to special temperature measuring conditions  
[NASA-CASE-LEW-11072-1] c14 N73-24472
- Device for measuring thermoelectric properties of materials under high pressure  
[NASA-CASE-NPO-11749] c14 N73-28486
- THERMOLUMINESCENCE**
- Method for detecting oxygen in gas by thermoluminescence  
[NASA-CASE-LAR-10668-1] c06 N73-16106
- THERMOMAGNETIC EFFECTS**
- Thermomagnetic recording and magneto-optic playback system having constant intensity laser beam control  
[NASA-CASE-NPO-11317-2] c16 N74-13205
- THERMOPHYSICAL PROPERTIES**
- Method for determining thermo-physical properties of specimens --- photographic recording of changes in thin film phase-change temperature indicating material in wind tunnel  
[NASA-CASE-LAR-11053-1] c33 N74-18551
- Apparatus for determining thermophysical properties of test specimens --- processing of analog signals  
[NASA-CASE-LAR-11883-1] c35 N76-18415
- THERMOPILES**
- Differential thermopile for measuring cooling water temperature rise  
[NASA-CASE-XAC-00812] c14 N71-15598
- Horizon sensor design with digital sampling of spaced radiation-compensated thermopile infrared detectors  
[NASA-CASE-XNP-06957] c14 N71-21088
- Development of thermopile with sensor surface to receive radiant energy and to provide measurement of energy quantity  
[NASA-CASE-NPO-11493] c14 N73-12447
- THERMOREGULATION**
- Thermoregulating with cooling flow pipe network for humans  
[NASA-CASE-XMS-10269] c05 N71-24147
- THERMOSETTING RESINS**
- Vacuum method for molding thermosetting compounds used as ablative materials  
[NASA-CASE-XLA-01091] c15 N71-10672
- Procedure for bonding polytetrafluoroethylene thermal protective sleeves to magnesium alloy conical shell components with different thermal coefficients  
[NASA-CASE-XLA-01262] c15 N71-21404
- Method for honeycomb panel bonding by thermosetting film adhesive with electrical heat means  
[NASA-CASE-XMP-01402] c18 N71-21651
- Heat treatment and tooling for forming shapes from thermosetting honeycomb core sheets  
[NASA-CASE-NPO-11036] c15 N72-24522
- Fluorinated polyurethanes produced by reacting hydroxy terminated perfluoro polyether with diisocyanate  
[NASA-CASE-NPO-10767-2] c06 N72-27151
- Evacuated displacement compression molding  
[NASA-CASE-LAR-10782-1] c15 N74-14133
- Method for compression molding of thermosetting plastics utilizing a temperature gradient across the plastic to cure the article  
[NASA-CASE-LAR-10489-1] c15 N74-18124
- Evacuated, displacement compression mold --- of tubular bodies from thermosetting plastics  
[NASA-CASE-LAR-10782-2] c31 N75-13111
- THERMOSTATS**
- Thermal switch for transferring excess heat from one region to another heat dissipating one  
[NASA-CASE-XNP-00463] c33 N70-36847
- Design and development of linear actuator based on bimetallic spring expansion  
[NASA-CASE-NPO-10637] c15 N72-12409
- Thermostatically controlled non-tracking type solar energy concentrator  
[NASA-CASE-NPO-13497-1] c44 N76-14602
- THICK FILMS**
- Material compositions and processes for

- developing dielectric thick films used in microcircuit capacitors  
[NASA-CASE-LAR-10294-1] c26 N72-28762
- THICKNESS**  
Myocardium wall thickness transducer and measuring method  
[NASA-CASE-NPO-13644-1] c52 N76-29895
- THIN FILMS**  
Temperature sensitive capacitor device for detecting very low intensity infrared radiation  
[NASA-CASE-XNP-09750] c14 N69-39937  
Means and methods of depositing thin films on substrates  
[NASA-CASE-XNP-00595] c15 N70-34967  
Method of forming thin window drifted silicon charged particle detector  
[NASA-CASE-XLE-00808] c24 N71-10560  
Describing apparatus used in vacuum deposition of thin film inductive windings for spacecraft microcircuitry  
[NASA-CASE-XMP-01667] c15 N71-17647  
Describing method for vapor deposition of gallium arsenide films to manganese substrates to provide semiconductor devices with low resistance substrates  
[NASA-CASE-XNP-01328] c26 N71-18064  
Development of stable electronic amplifier adaptable for monolithic and thin film construction  
[NASA-CASE-XGS-02812] c09 N71-19466  
Sputter proof evaporant source design for use in vacuum deposition of solid thin films on substrates  
[NASA-CASE-XMP-06065] c15 N71-20395  
Binding layer of semiconductor particles by electrodeposition  
[NASA-CASE-XNP-01959] c26 N71-23043  
Device for high vacuum film deposition with electromagnetic ion steering  
[NASA-CASE-NPO-10331] c09 N71-26701  
Magnetic recording head composed of ferrite core coated with thin film of aluminum-iron-silicon alloy  
[NASA-CASE-GSC-10097-1] c08 N71-27210  
Thin film capacitive bolometer and capacitance temperature interchange sensor  
[NASA-CASE-NPO-10607] c09 N71-27232  
Electrical connections for thin film hybrid microcircuits  
[NASA-CASE-XMS-02182] c10 N71-28783  
Single crystal film semiconductor devices  
[NASA-CASE-ERC-10222] c09 N72-22199  
Waveguide, thin film window and microwave irises  
[NASA-CASE-LAR-10513-1] c07 N72-25170  
Thin absorbing metallic film for increased visible light transmission  
[NASA-CASE-LAR-10836-1] c26 N72-27784  
Development of thin film microwave iris installed in microwave waveguide transverse to flow of energy in waveguide  
[NASA-CASE-LAR-10511-1] c09 N72-29172  
Development of procedure for producing thin transparent films of zinc oxide on transparent refractory substrate  
[NASA-CASE-FRC-10019] c15 N73-12487  
Process for analysis of strain field of structures subjected to large deformations involving low modulus substrate with thin coating  
[NASA-CASE-LAR-10765-1] c32 N73-20740  
Dual wavelength system for monitoring film deposition  
[NASA-CASE-MFS-20675] c26 N73-26751  
Thin film analyzer utilizing holographic techniques  
[NASA-CASE-MFS-20823-1] c16 N73-30476  
Transparent switchboard which permits optical display devices to be adapted for use in man machine communications  
[NASA-CASE-MSC-13746-1] c10 N73-32143  
Method for determining thermo-physical properties of specimens --- photographic recording of changes in thin film phase-change temperature indicating material in wind tunnel  
[NASA-CASE-LAR-11053-1] c33 N74-18551  
Method of preparing water purification membranes --- polymerization of allyl amine as thin films in plasma discharge  
[NASA-CASE-ARC-10643-1] c25 N75-12087
- System for depositing thin films  
[NASA-CASE-MFS-20775-1] c31 N75-12161  
Method of producing a storage bulb for an atomic hydrogen maser  
[NASA-CASE-NPO-13050-1] c36 N75-15029  
A process for forming a crystalline film --- in weightless environment  
[NASA-CASE-MFS-23226-1] c76 N75-33861  
Method of forming metal hydride films  
[NASA-CASE-LEW-12083-1] c26 N76-18262  
Integrated structure vacuum tube  
[NASA-CASE-ARC-10445-1] c31 N76-31365
- THIN PLATES**  
Dichroic plate --- as bandpass filters  
[NASA-CASE-NPO-13506-1] c35 N76-15435
- THIN WALLED SHELLS**  
Thin walled pressure test vessel using low-melting alloy-filled joint to attach shell to heads  
[NASA-CASE-XLE-04677] c15 N71-10577
- THIN WALLS**  
Channel-type shell construction for rocket engines and related configurations  
[NASA-CASE-XLE-00144] c28 N70-34860  
Sealed separable connection for thin wall metal tube  
[NASA-CASE-NPO-10064] c15 N71-17693  
Low mass truss structure with elongated thin-walled tubular segments  
[NASA-CASE-LAR-10546-1] c11 N72-25287  
Development of differential pressure control system using motion of mechanical diaphragms to operate electric switch  
[NASA-CASE-MFS-14216] c14 N73-13418  
Method of fabricating an article with cavities --- with thin bottom walls  
[NASA-CASE-LAR-10318-1] c14 N74-18089  
Method of fabricating an object with a thin wall having a precisely shaped slit  
[NASA-CASE-LAR-10409-1] c15 N74-21059
- THORIUM FLUORIDES**  
Ultraviolet filter of thorium fluoride and cryolite on quartz base  
[NASA-CASE-XNP-02340] c23 N69-24332
- THREADS**  
Gage for quality control of sealing surfaces of threaded boss  
[NASA-CASE-XMP-04966] c14 N71-17658  
Threadless fastener apparatus comprising receiving apertures for plurality of articles, self-locked condition, and capable of using nonmalleable materials in both ends  
[NASA-CASE-XPR-05302] c15 N71-23254
- THREE DIMENSIONAL MOTION**  
Solid state controller three axes controller  
[NASA-CASE-MSC-12394-1] c03 N74-10942
- THRESHOLD GATES**  
Apparatus with summing network for compression of analog data by decreasing slope threshold sampling  
[NASA-CASE-NPO-10769] c08 N72-11171  
Radiation hardening of MOS devices by boron --- for stabilizing gate threshold potential  
[NASA-CASE-GSC-11425-2] c76 N75-25730
- THRESHOLD LOGIC**  
Silicon controlled rectifier pulse gate amplifier for blocking false gating caused by negative transient voltages  
[NASA-CASE-XLA-07497] c09 N71-12514
- THRUST AUGMENTATION**  
Exhaust nozzle with afterburning for generating thrust  
[NASA-CASE-XLA-00154] c28 N70-33374  
Construction and method of arranging plurality of ion engines to form cluster thereby increasing efficiency and control by decreasing heat radiated to space  
[NASA-CASE-XNP-02923] c28 N71-23081  
Reversed cowl flap inlet thrust augmentor --- with adjustable airfoil  
[NASA-CASE-ARC-10754-1] c07 N75-24736
- THRUST BEARINGS**  
Thrust bearing  
[NASA-CASE-LEW-11949-1] c37 N76-29588
- THRUST CHAMBERS**  
Rocket chamber leak test fixture using tubular plug  
[NASA-CASE-XPR-09479] c14 N69-27503

- Supporting and protecting frame structure and plug for empty thrust chamber assembly, handling, and shipping  
[NASA-CASE-XNP-00580] c11 N70-35383
- Large area-ratio nozzles for rocket motor thrust chambers  
[NASA-CASE-XLE-00145] c28 N70-36806
- Method for shaping regeneratively cooled rocket motor casing having minimum thickness at each channel cross section  
[NASA-CASE-XLE-00409] c28 N71-15658
- Regeneratively cooled rocket motor casing with tapered channels to insure minimum thicknesses at each channel cross section for necessary strength requirements  
[NASA-CASE-XLE-05689] c28 N71-15659
- Rocket engine injector orifice to accommodate changes in density, velocity, and pressure, thereby maintaining constant mass flow rate of propellant into rocket combustion chamber  
[NASA-CASE-XLE-03157] c28 N71-24736
- Fuel and oxidizer injection head for thrust chamber of reaction engine  
[NASA-CASE-NPO-10046] c28 N72-17843
- Continuous gas flow control by fluidic proportional thruster system  
[NASA-CASE-ARC-10106-1] c28 N72-22769
- Radial magnetic field for ion thruster  
[NASA-CASE-LEW-10770-1] c28 N72-22770
- Thermal flux transfer system for maintaining thrust chamber of operative reaction motor at given temperatures  
[NASA-CASE-NPO-12070-1] c28 N73-32606
- THRUST CONTROL**
- Electromechanical actuator and its use in rocket thrust control valve  
[NASA-CASE-XNP-05975] c15 N69-23185
- Solid propellant rocket vehicle thrust control method and apparatus  
[NASA-CASE-XNP-00217] c28 N70-38181
- Thrust and attitude control apparatus using jet nozzle in movable canard surface or fin configuration  
[NASA-CASE-XLE-03583] c31 N71-17629
- Detonation reaction engine comprising outer housing enclosing pair of inner walls for continuous flow  
[NASA-CASE-XNP-06926] c28 N71-22983
- Low mass ionizing device for use in electric thrust spacecraft engines  
[NASA-CASE-XNP-01954] c28 N71-28850
- Heated porous plug microthruster for spacecraft reaction jet controlled systems such as fuel flow regulation, propellant disassociation, and heat transfer augmentation  
[NASA-CASE-GSC-10640-1] c28 N72-18766
- THRUST LOADS**
- Thrust measurement  
[NASA-CASE-XMS-05731] c35 N75-29382
- THRUST MEASUREMENT**
- Dynamometer measuring microforce thrust produced by ion engine  
[NASA-CASE-XLE-00702] c14 N70-40203
- Development of thrust dynamometer for measuring performance of jet and rocket engines  
[NASA-CASE-XLE-05260] c14 N71-20429
- Development of temperature compensated thrust measuring gage for measuring forces as function of time in environment with varying temperature  
[NASA-CASE-XGS-02319] c14 N71-22965
- Micro-pound extended range thrust stand for small rocket engines  
[NASA-CASE-GSC-10710-1] c28 N71-27094
- THRUST VECTOR CONTROL**
- Thrust vector control by secondary injection of fluid into rocket nozzle flow field to separate exhaust flow  
[NASA-CASE-XLE-00208] c28 N70-34294
- High velocity guidance and spin stabilization gyro controlled jet reaction system for launch vehicle payloads  
[NASA-CASE-XLA-01339] c31 N71-15692
- Ion beam deflector system for electronic thrust vector control for ion propulsion yaw, pitch, and roll forces  
[NASA-CASE-LEW-10689-1] c28 N71-26173
- Tertiary flow injection system for thrust vectoring of propulsive nozzle flow  
[NASA-CASE-MPS-20831] c28 N71-29153
- Development of thrust control system for application to control of aircraft and spacecraft  
[NASA-CASE-MSC-13397-1] c21 N72-25595
- Development of vortex fluid amplifier for throttling rocket exhaust  
[NASA-CASE-LEW-10374-1] c28 N73-13773
- System for imposing directional stability on a rocket-propelled vehicle  
[NASA-CASE-MPS-21311-1] c20 N76-21275
- THRUST-WEIGHT RATIO**
- Launch pad missile release system with bending moment change rate reduction in thrust distribution structure at liftoff  
[NASA-CASE-XNP-03198] c30 N70-40353
- THYROID GLAND**
- Apparatus for producing high purity I-123 --- for thyroid measurement  
[NASA-CASE-LEW-10518-3] c15 N74-10476
- TILES**
- Strain arrestor plate for fused silica tile --- bonding of thermal insulation to metallic plates or structural parts  
[NASA-CASE-MSC-14182-1] c27 N76-14264
- TIME CONSTANT**
- Variable time constant, wide frequency range smoothing network for noise removal from pulse chains  
[NASA-CASE-XGS-01983] c10 N70-41964
- TIME DISCRIMINATION**
- Extra-long monostable multivibrator employing bistable semiconductor switch to allow charging of timing circuit  
[NASA-CASE-XGS-00381] c09 N70-34819
- TIME DIVISION MULTIPLEXING**
- Synchronizing apparatus for multi-access satellite time division multiplex system  
[NASA-CASE-XGS-05918] c07 N69-39974
- Time division multiplexer with magnetic latching relays  
[NASA-CASE-XNP-00431] c09 N70-38998
- Data processor having multiple sections activated at different times by selective power coupling to sections  
[NASA-CASE-XGS-04767] c08 N71-12494
- Minimum time delay unit for conventional time multiplexed data compression channels  
[NASA-CASE-XNP-08832] c08 N71-12506
- Time division relay synchronizer with master sync pulse for activating binary counter to produce signal identifying time slot for station  
[NASA-CASE-GSC-10373-1] c07 N71-19773
- Sampling circuit for signal processing in multiplex transmission by Fourier analysis  
[NASA-CASE-NPO-10388] c07 N71-24622
- Time division multiplexed telemetry transmitting system controlled by programmed memory  
[NASA-CASE-GSC-10131-1] c07 N71-24624
- TIME FUNCTIONS**
- Cathode ray oscilloscope for analyzing electrical waveforms representing amplitude distribution of time function  
[NASA-CASE-XNP-01383] c09 N71-10659
- TIME LAG**
- Closed loop radio communication ranging system to determine distance between moving airborne vehicle and fixed ground station  
[NASA-CASE-XNP-01501] c21 N70-41930
- Minimum time delay unit for conventional time multiplexed data compression channels  
[NASA-CASE-XNP-08832] c08 N71-12506
- Apparatus for estimating amplitude and sign of phase difference or time lag between two signals  
[NASA-CASE-NPO-11203] c10 N72-20224
- Automatic transponder --- measurement of the internal delay time of a transponder  
[NASA-CASE-GSC-12075-1] c32 N76-19318
- TIME MEASURING INSTRUMENTS**
- Mechanism for measuring nanosecond time differences between luminous events using streak camera  
[NASA-CASE-XLA-01987] c23 N71-23976
- TIME OF FLIGHT SPECTROMETERS**
- Design and characteristics of time of flight mass spectrometer to measure or analyze gases at low pressures and time of flight of single gas molecule  
[NASA-CASE-XNP-01056] c14 N71-23041



**TIME SERIES ANALYSIS**

Device for performing statistical time-series analysis of complex electrical signal waveforms  
[NASA-CASE-MSC-12428-1] c10 N73-25240

**TIME SHARING**

Integrated time shared instrumentation display for aerospace vehicle simulators  
[NASA-CASE-XLA-01952] c08 N71-12507

**TIME SIGNALS**

Monitoring system for signal amplitude ranges over predetermined time interval  
[NASA-CASE-XMS-04061-1] c09 N69-39885

Development of method for synchronizing clocks at several ground stations based on signals received from spacecraft or satellites  
[NASA-CASE-XNP-08875] c10 N71-23099

Time synchronization system for synchronizing clocks at remote locations with master clock using moon reflected coded signals  
[NASA-CASE-NPO-10143] c10 N71-26326

Circuit for measuring wide range of pulse rates by utilizing high capacity counter  
[NASA-CASE-XNP-06234] c10 N71-27137

System for generating timing and control signals  
[NASA-CASE-NPO-13125-1] c33 N75-19519

**TIMING DEVICES**

Design and development of synchronous servo loop control system  
[NASA-CASE-XNP-03744] c10 N71-20448

Development of method for synchronizing clocks at several ground stations based on signals received from spacecraft or satellites  
[NASA-CASE-XNP-08875] c10 N71-23099

Development and characteristics of resettable monostable pulse generator with charge rundown-timing circuit  
[NASA-CASE-GSC-11139] c09 N71-27016

Data acquisition and processing system with buffer storage and timing device for magnetic tape recording of PCH data and timing information  
[NASA-CASE-NPO-12107] c08 N71-27255

High speed photo-optical time recorder for indicating time at exposure of each frame of high speed movie camera film  
[NASA-CASE-KSC-10294] c14 N72-18411

**TIM ALLOYS**

A method for attaching a fused-quartz mirror to a conductive metal substrate  
[NASA-CASE-MPS-23405-1] c37 N76-31526

**TIRES**

Temperature sensor warning system for pneumatic tires of aircraft and ground vehicles  
[NASA-CASE-XLA-01926] c14 N71-15620

Resilient wheel design with woven wire tire and abrasive treads for lunar surface vehicles  
[NASA-CASE-MPS-13929] c15 N71-27091

**TISSUES (BIOLOGY)**

Method and system for in vivo measurement of bone tissue  
[NASA-CASE-MSC-14276-1] c54 N75-21948

Servo-controlled intravital microscope system  
[NASA-CASE-NPO-13214-1] c35 N75-25123

Improved tissue macerating instrument --- ophthalmic liquifaction pump  
[NASA-CASE-LEW-12668-1] c52 N76-23837

**TITANATES**

Vacuum preparation of zinc titanate pigment resistant to loss of reflective properties  
[NASA-CASE-MPS-13532] c18 N72-17532

**TITANIUM**

Joining aluminum to stainless steel by bonding aluminum coatings onto titanium coated stainless steel and brazing aluminum to aluminum/titanium coated steel  
[NASA-CASE-MPS-07369] c15 N71-20443

Method of preparing zinc orthotitanate pigment  
[NASA-CASE-MPS-23345-1] c24 N76-26285

**TITANIUM ALLOYS**

Method to prevent stress corrosion cracking in titanium alloys  
[NASA-CASE-NPO-10271] c17 N71-16393

Chemical spot tests for identification of titanium and titanium alloys used in aerospace vehicles  
[NASA-CASE-LAR-10539-1] c17 N73-12547

**TOLERANCES (MECHANICS)**

Mechanism for restraining universal joints to prevent separation while allowing bending,

angulation, and lateral offset in any position about axis  
[NASA-CASE-XNP-02278] c15 N71-28951

**TOOLS**

Tool attachment for spreading or moving away loose elements from terminal posts during winding of filamentary elements  
[NASA-CASE-XMP-02107] c15 N71-10809

Development of adjustable attitude guide block for setting pins perpendicular to irregular convex work surface  
[NASA-CASE-XLA-07911] c15 N71-15571

Hand tool for forming dimples and nipples on end portion of tubes  
[NASA-CASE-XMS-06876] c15 N71-21536

Tool for mounting and removing studs with adhesive coated head portion  
[NASA-CASE-MPS-20299] c15 N72-11392

Insert facing tool --- manually operated cutting tool for forming studs in honeycomb material  
[NASA-CASE-MPS-21485-1] c15 N74-25968

**TOOTH DISEASES**

Process for preparing calcium phosphate salts for tooth repair  
[NASA-CASE-ERC-10338] c04 N72-33072

**TORCHES**

Computer controlled apparatus for maintaining welding torch angle and velocity during seam tracking  
[NASA-CASE-XMP-03287] c15 N71-15607

Development of electric weeding torch with casing on one end to form inert gas shield  
[NASA-CASE-XMP-02330] c15 N71-23798

**TOROIDS**

Flux gate magnetometer with toroidal gating coil and solenoidal output coil for signal modulation or amplification  
[NASA-CASE-XGS-01881] c09 N70-40123

**TORQUE**

Gearing system for eliminating backlash and filtering input torque fluctuations from high inertia load  
[NASA-CASE-XGS-04227] c15 N71-21744

Coupling arrangement for isolating torque loads from axial, radial, and bending loads  
[NASA-CASE-XLA-04897] c15 N72-22482

**TORQUE MOTORS**

Low speed phaselock speed control system --- for brushless dc motor  
[NASA-CASE-GSC-11127-1] c09 N75-24758

**TORQUEMETERS**

Remote-reading torquemeter for use where high horsepower are transmitted at high rotative speeds  
[NASA-CASE-XLE-00503] c14 N70-34818

Torque meter for determining magnitude of torque generated by interaction of magnetic dipole between test specimen and ambient magnetic field  
[NASA-CASE-XGS-01013] c14 N71-23725

**TORSO**

Restraint torso for increased mobility and reduced physiological effects while wearing pressurized suits  
[NASA-CASE-MSC-12397-1] c05 N72-25119

**TOUCH**

Mechanically operated hand which can depress trigger using touch control device  
[NASA-CASE-MPS-20413] c15 N72-21463

Measuring method for cutaneous perception using instrument with elongated tubular housing  
[NASA-CASE-MSC-13609-1] c05 N72-25122

Prosthetic limb with tactile sensing device  
[NASA-CASE-MPS-16570-1] c05 N73-32013

**TOWERS**

Aerial capsule emergency separation device using jettisonable towers  
[NASA-CASE-XLA-00115] c03 N70-33343

**TOXICITY AND SAFETY HAZARD**

Apparatus for remote handling of materials --- mixing or analyzing dangerous chemicals  
[NASA-CASE-LAR-10634-1] c15 N74-18123

**TOXICOLOGY**

System for continuous monitoring of exhalations, weighing, and cage cleaning for animal exposed to controlled atmosphere for toxic study  
[NASA-CASE-XAC-05333] c11 N71-22875

**TRACE CONTAMINANTS**

Describing crystal oscillator instrument for detecting condensable gas contaminants in

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[NASA-CASE-NPO-10144] c14 N71-17701  
Heated tungsten filter for removing oxygen  
impurities from cesium  
[NASA-CASE-XNP-04262-2] c17 N71-26773

**TRACE ELEMENTS**  
Ion microprobe mass spectrometer with cooled  
electrode target for analyzing traces of fluids  
[NASA-CASE-ERC-10014] c14 N71-28863  
Method and apparatus for background signal  
reduction in opto-acoustic absorption  
measurement  
[NASA-CASE-NPO-13683-1] c35 N75-29383  
Automated system for identifying traces of  
organic chemical compounds in aqueous solutions  
[NASA-CASE-NPO-13063-1] c25 N76-18245  
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NDIR absorption  
[NASA-CASE-ARC-10760-1] c25 N76-22323

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pyramidal base for improved pointing  
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[NASA-CASE-XNP-04180] c07 N69-39736  
Telespectrograph for analyzing upper atmosphere  
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high velocities  
[NASA-CASE-XLA-03273] c14 N71-18699  
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astronomical telescope during tracking  
[NASA-CASE-NPO-11087] c23 N71-29125  
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--- employing feedback control  
[NASA-CASE-HQN-10880-1] c32 N75-30385

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[NASA-CASE-XGS-04994] c09 N69-21543

**TRACKING RADAR**  
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system for monopulse tracking antenna  
[NASA-CASE-XGS-05582] c07 N69-27460  
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[NASA-CASE-XNP-02723] c07 N70-41680  
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[NASA-CASE-XMS-09610] c07 N71-24625  
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[NASA-CASE-MPS-20125] c16 N72-13437

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Optical monitor panel consisting of translucent  
screen with test or meter information  
projected onto it from rear for application in  
control rooms of missile launching and  
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[NASA-CASE-YKS-03509] c14 N71-23175  
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[NASA-CASE-NPO-13292-1] c32 N75-15854

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**TRAFFIC CONTROL**  
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[NASA-CASE-MPS-22631-1] c66 N76-19888

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[NASA-CASE-PRC-10081-1] c37 N75-29432

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over trailing edges of wings  
[NASA-CASE-XLA-01290] c02 N70-42016

**TRAINING SIMULATORS**  
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[NASA-CASE-MPS-10555] c11 N71-19494  
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[NASA-CASE-XMS-04798] c11 N71-21474  
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training  
[NASA-CASE-LAR-10276-1] c09 N75-15662

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[NASA-CASE-XNP-09768] c09 N71-12516  
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[NASA-CASE-XLA-03135] c32 N71-16428  
Describing device for surveying contour of  
surface using X-Y plotter and traveling  
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[NASA-CASE-XLA-08646] c14 N71-17586  
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[NASA-CASE-XGS-03304] c09 N71-22988  
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[NASA-CASE-XLA-00781] c09 N71-22999  
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[NASA-CASE-XLA-10322] c15 N72-17452  
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[NASA-CASE-XLA-11189] c10 N72-20222  
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[NASA-CASE-PRC-10036] c09 N72-22200  
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[NASA-CASE-LAR-10496-1] c14 N72-22437  
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remotely determining number and movement of  
enemy personnel  
[NASA-CASE-ARC-10097-2] c07 N73-25160  
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including differential pressure activating  
device  
[NASA-CASE-PRC-10060-1] c14 N73-27379  
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[NASA-CASE-NUC-10107-1] c09 N74-17930  
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amplitude via bias current control --- power  
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[NASA-CASE-ARC-10364-3] c33 N75-19520  
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[NASA-CASE-NPO-13423-1] c33 N75-31329  
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[NASA-CASE-LAR-11263-1] c35 N75-33369  
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[NASA-CASE-NPO-13519-1] c33 N76-19338  
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[NASA-CASE-NPO-12142-1] c38 N76-28563  
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[NASA-CASE-NPO-13644-1] c52 N76-29895

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[NASA-CASE-XGS-01110] c07 N69-24334  
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[NASA-CASE-XNP-01193] c10 N71-16057  
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[NASA-CASE-ERC-10075] c09 N71-24800

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[NASA-CASE-ERC-10125] c09 N71-24893
- Development and characteristics of electronically resettable fuse with saturable core current sensing transformer having two outside legs and center leg  
[NASA-CASE-XGS-11177] c09 N71-27001
- Development and characteristics of voltage regulator for connection in series with alternating current source and load using three leg, two-window transformer  
[NASA-CASE-ERC-10113] c09 N71-27053
- Radial heat flux transformer for use in heating and cooling processes  
[NASA-CASE-NPO-10828] c33 N72-17948
- Current protection equipment for saturable core transformers  
[NASA-CASE-ERC-10075-2] c09 N72-22196
- Fail-safe multiple transformer circuit configuration  
[NASA-CASE-NPO-11078] c09 N72-25262
- Banded transformer cores  
[NASA-CASE-NPO-11966-1] c09 N74-17928
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[NASA-CASE-MPS-22560-1] c33 N75-26251
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[NASA-CASE-NPO-10883] c31 N72-22874
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[NASA-CASE-XGS-04999] c09 N69-24317
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[NASA-CASE-XGS-03095] c09 N69-27463
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[NASA-CASE-XMP-00906] c09 N70-41655
- Linear sawtooth voltage wave generator with transistor timing circuit having capacitor and zener diode feedback loops  
[NASA-CASE-XMS-01315] c09 N70-41675
- Switching circuit with regeneratively connected transistors eliminating power consumption when not in use  
[NASA-CASE-XNP-02654] c10 N70-42032
- High voltage transistor circuit  
[NASA-CASE-XNP-06937] c09 N71-19516
- Complementary regenerative transistorized switch circuit employing positive and negative feedback  
[NASA-CASE-XGS-02751] c09 N71-23015
- Inverter drive circuit for semiconductor switch  
[NASA-CASE-XEW-10233] c10 N71-27126
- Transistorized circuit for producing multiple slope voltage sweep  
[NASA-CASE-XMS-03542] c09 N71-28926
- Circuitry for high input impedance video processor with high noise immunity  
[NASA-CASE-NPO-10199] c09 N72-17156
- Ultra-stable oscillator with complementary transistors  
[NASA-CASE-GSC-11513-1] c09 N74-20862
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- Power supply with overload protection for series stage transistor  
[NASA-CASE-XMS-00913] c10 N71-23543
- Solid state circuit for switching alternating current input signal as function of direct current gating transistor  
[NASA-CASE-XNP-06505] c10 N71-24799
- Broadband distribution amplifier with complementary pair transistor output stages  
[NASA-CASE-NPO-10003] c10 N71-26415
- Transistorized switching logic circuits with tunnel diodes  
[NASA-CASE-GSC-10878-1] c10 N72-22236
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[NASA-CASE-ARC-10330-1] c09 N73-32112
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[NASA-CASE-MSC-14240-1] c33 N75-14957
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[NASA-CASE-LAR-10439-1] c33 N73-27796
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- A method of preparing aromatic polyimides having uniquely low softening temperatures  
[NASA-CASE-LAR-11828-1] c23 N75-29181
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[NASA-CASE-XAC-00399] c11 N70-34815
- Development and characteristics of translating horizontal tail assembly for supersonic aircraft  
[NASA-CASE-XLA-08801-1] c02 N71-11043
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[NASA-CASE-XLA-02809] c15 N71-22982
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[NASA-CASE-NPO-10679] c15 N72-21462
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[NASA-CASE-MPS-21470-1] c10 N74-19870
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[NASA-CASE-XKS-10543] c07 N71-26292
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[NASA-CASE-MPS-20068] c07 N71-27191
- Phase modulator with tuned variable length electrical lines including coupling and varactor diode circuits  
[NASA-CASE-MSC-13201-1] c07 N71-28429
- Shielded flat conductor cable of ribbonlike wires laminates in thin flexible insulation  
[NASA-CASE-MPS-13687-2] c09 N72-22198
- Development of phase control coupling for use with phased array antenna  
[NASA-CASE-ERC-10285] c10 N73-16206
- Phase protection system for ac power lines  
[NASA-CASE-MSC-17832-1] c10 N74-14956
- System for stabilizing cable phase delay utilizing a coaxial cable under pressure  
[NASA-CASE-NPO-13138-1] c09 N74-17927
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- Transmitting and reflecting diffuser  
[NASA-CASE-LAR-10385-3] c23 N73-32538
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[NASA-CASE-XER-09521] c09 N72-12136
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[NASA-CASE-ERC-10324] c07 N72-25173
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[NASA-CASE-NPO-11850-1] c09 N74-12912
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[NASA-CASE-MSC-13912-1] c07 N74-30524
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[NASA-CASE-NPO-10649] c07 N71-24840
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[NASA-CASE-NPO-11548] c07 N73-26118
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[NASA-CASE-MSC-14558-1] c32 N75-21486
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[NASA-CASE-XLA-01486] c01 N71-23497
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 [NASA-CASE-GSC-11989-1] c35 N76-16395

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 [NASA-CASE-LEW-11118-2] c20 N76-14191

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 [NASA-CASE-XMS-05454-1] c07 N71-12391  
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 [NASA-CASE-NPO-11001] c07 N72-21118  
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 [NASA-CASE-NPO-11707] c07 N73-25161  
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 [NASA-CASE-NPO-11850-1] c09 N74-12912  
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 [NASA-CASE-NPO-13292-1] c32 N75-15854  
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 [NASA-CASE-XMF-00580] c11 N70-35383

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 [NASA-CASE-NPO-13131-1] c36 N75-19652

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 [NASA-CASE-XGS-01022] c07 N71-16088  
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 [NASA-CASE-HQN-10069] c33 N75-27251

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 [NASA-CASE-XNP-05219] c16 N71-15550  
 Comb type traveling wave maser amplifier for improved high gain broadband output  
 [NASA-CASE-NPO-10548] c16 N71-24831  
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 [NASA-CASE-NPO-11437] c16 N72-28521

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 [NASA-CASE-XMF-00684] c21 N71-21688

**TRIMERS**  
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 [NASA-CASE-NPO-10714] c06 N69-31244  
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 [NASA-CASE-LAR-10546-1] c11 N72-25287

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 [NASA-CASE-XLE-01783] c28 N70-34175  
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 [NASA-CASE-NPO-10234] c06 N72-17094

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 [NASA-CASE-XGS-04175] c15 N71-18579  
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 [NASA-CASE-NPO-10431] c15 N71-29132

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 [NASA-CASE-XGS-04554] c15 N69-39786  
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 [NASA-CASE-XLE-00455] c28 N70-38197  
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 [NASA-CASE-XLE-02578] c25 N71-20747  
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 [NASA-CASE-XNP-04339] c17 N71-29137  
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 [NASA-CASE-XLA-03105] c15 N69-27483  
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 [NASA-CASE-LEW-10436-1] c17 N73-32415  
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 [NASA-CASE-LEW-12270-1] c26 N76-14247

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 [NASA-CASE-GSC-11340-1] c10 N72-33230  
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 [NASA-CASE-NPO-12106] c09 N73-15235

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 [NASA-CASE-XGS-04999] c09 N69-24317

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 [NASA-CASE-MPS-22636-1] c37 N76-22540

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[NASA-CASE-XLE-00020] c15 N70-33226  
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for maximum cooling efficiency  
[NASA-CASE-XLE-00092] c15 N70-33264  
Preparation of nickel alloys for jet turbine  
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[NASA-CASE-XLE-00151] c17 N70-33283  
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turbine blades  
[NASA-CASE-XLE-00037] c28 N70-33372  
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[NASA-CASE-XLE-00027] c33 N71-29152  
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efficiency and reducing low speed noise for  
turbine aircraft engines  
[NASA-CASE-LAR-11310-1] c28 N73-31699  
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[NASA-CASE-LEW-11274-1] c37 N75-21631

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voltage generator  
[NASA-CASE-MSC-13112] c03 N71-11057  
Portable cryogenic cooling system design  
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[NASA-CASE-NPO-10467] c23 N71-26654  
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[NASA-CASE-LEW-11058-1] c28 N74-13502

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[NASA-CASE-LEW-10533-2] c15 N74-11300

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Multistage multiple reentry axial flow reaction  
turbine with reverse flow reentry ducting  
[NASA-CASE-XLE-00170] c15 N70-36412

**TURBOFAN ENGINES**  
Supersonic fan blading --- noise reduction in  
turbofan engines  
[NASA-CASE-LEW-11402-1] c28 N74-28226  
Noise suppressor --- for turbofan engine by  
incorporating annular acoustically porous  
elements in exhaust and inlet ducts  
[NASA-CASE-LAR-11141-1] c02 N74-32418  
Noise suppressor for turbo fan jet engines  
[NASA-CASE-ARC-10812-1] c07 N76-18131

**TURBOJET ENGINES**  
Telescoping-spike supersonic nozzle for turbojet  
or ramjet engines  
[NASA-CASE-XLE-00005] c28 N70-39899  
Design and development of gas turbine combustion  
unit with nozzle guide vanes for introducing  
diluent air into combustion gases  
[NASA-CASE-XLE-103477-1] c28 N71-20330

**TURBOMACHINERY**  
Blade vibration damping pins for turbomachinery  
[NASA-CASE-XLE-00155] c28 N71-29154

**TURBOSHAPTS**  
Remote-reading torque meter for use where high  
horsepowers are transmitted at high rotative  
speeds  
[NASA-CASE-XLE-00503] c14 N70-34818  
High speed, self-acting shaft seal --- for use  
in turbine engines  
[NASA-CASE-LEW-11274-1] c37 N75-21631

**TURBULENCE METERS**  
Turbulence intensity indicator  
[NASA-CASE-LAR-11833-1] c06 N76-31229

**TURBULENT FLOW**  
Exhaust flow deflector --- for ducted gas flow  
[NASA-CASE-LAR-11570-1] c34 N76-18364

System for measuring three fluctuating velocity  
components in a turbulently flowing fluid  
[NASA-CASE-ARC-10974-1] c34 N76-19379  
System for measuring Reynolds in a turbulently  
flowing fluid --- signal processing  
[NASA-CASE-ARC-10755-2] c34 N76-27517

**TURNSTILE ANTENNAS**  
Flexible turnstile antenna system for reducing  
nutation in spin-oriented satellites  
[NASA-CASE-XNP-00442] c31 N71-10747  
Broadband modified turnstile antenna for use in  
space tracking and communications  
[NASA-CASE-MSC-12209] c09 N71-24842  
Turnstile slot antenna  
[NASA-CASE-GSC-11428-1] c09 N74-20864  
Turnstile and flared cone UHF antenna  
[NASA-CASE-LAR-10970-1] c33 N76-14372

**TURRET**  
Indexing mechanism for cathode array  
substitution in electron beam tube  
[NASA-CASE-NPO-10625] c09 N71-26182

**TWO BODY PROBLEM**  
Instrument for measuring potentials on two  
dimensional electric field plot  
[NASA-CASE-XLA-08493] c10 N71-19421

**TWO PHASE FLOW**  
Solenoid two-step valve for bipropellant flow  
rate control to rocket engine  
[NASA-CASE-XNS-04890-1] c15 N70-22192  
Two phase fluid pressurization system for  
propellant tank  
[NASA-CASE-MSC-12390] c27 N71-29155  
Two-phase flow system with discrete, impinging  
two-phase jets  
[NASA-CASE-NPO-11556] c12 N72-25292

**TYPEWRITERS**  
Guide accessories for correctly aligning paper  
in typewriter to correct typographical errors  
[NASA-CASE-MPS-15218-1] c15 N73-31438

## U

## U BENDS

Elbow forming in jacketed pipes while  
maintaining separation between core shape and  
jacket pipes  
[NASA-CASE-XNP-10475] c15 N71-24679  
U shaped heated tube for distillation and  
purification of liquid metals  
[NASA-CASE-XNP-08124-2] c06 N73-13129

## ULLAGE

Radiation source and detection system for  
measuring amount of liquid inside tanks  
independently of liquid configuration  
[NASA-CASE-MSC-12280] c27 N71-16348

## ULTRAHIGH FREQUENCIES

Turnstile and flared cone UHF antenna  
[NASA-CASE-LAR-10970-1] c33 N76-14372

## ULTRAHIGH VACUUM

Solid lubricant applied to porous roller  
bearings prior to use in ultrahigh vacuum  
[NASA-CASE-XLE-09527] c15 N71-17688  
Calibration of vacuum gauges for measuring total  
and partial pressures in ultrahigh vacuum region  
[NASA-CASE-XGS-07752] c14 N73-30390  
Ultrahigh vacuum gauge with two collector  
electrodes  
[NASA-CASE-LAR-02743] c14 N73-32324  
In situ transfer standard for ultrahigh vacuum  
gage calibration  
[NASA-CASE-LAR-10862-1] c14 N74-15092

## ULTRASONIC AGITATION

Development of ultrasonic radiation equipment  
for removing material from host surface and  
vacuum apparatus for recovery of material  
[NASA-CASE-NPO-11213] c15 N73-20514

## ULTRASONIC RADIATION

Ultrasonic biomedical measuring and recording  
apparatus --- for recording motion of internal  
organs such as heart valves  
[NASA-CASE-ARC-10597-1] c05 N74-20726  
Biomedical ultrasonoscope  
[NASA-CASE-ARC-10994-1] c52 N76-33835

## ULTRASONIC TESTS

Ultrasonic scanner for radial and flat panels  
[NASA-CASE-MPS-20335-1] c14 N74-10415  
Ultrasonic scanning system for in-place  
inspection of brazed tube joints  
[NASA-CASE-MPS-20767-1] c15 N74-15130

- Method and apparatus for nondestructive testing  
--- using high frequency arc discharges  
[NASA-CASE-MFS-21233-1] c23 N74-15395
- ULTRASONIC WAVE TRANSDUCERS**  
Development of ultrasonic radiation equipment  
for removing material from host surface and  
vacuum apparatus for recovery of material  
[NASA-CASE-NPO-11213] c15 N73-20514  
Ultrasonic bone densitometer  
[NASA-CASE-MFS-20994-1] c35 N75-12271  
Reference apparatus for medical ultrasonic  
transducer  
[NASA-CASE-ARC-10753-1] c54 N75-27760  
Ultrasonic calibration device --- for producing  
changes in acoustic attenuation and phase  
velocity  
[NASA-CASE-LAR-11435-1] c35 N76-15432
- ULTRASONIC WELDING**  
Ultrasonically bonded valve assembly  
[NASA-CASE-NPO-13360-1] c37 N75-25185
- ULTRASONICS**  
Ultrasonic wrench for applying vibratory energy  
to mechanical fasteners  
[NASA-CASE-MFS-20586] c15 N71-17686
- ULTRAVIOLET FILTERS**  
Ultraviolet filter of thorium fluoride and  
cryolite on quartz base  
[NASA-CASE-XNP-02340] c23 N69-24332  
Development of ultraviolet resonance lamp with  
improved transmission of radiation  
[NASA-CASE-ARC-10030] c09 N71-12521
- ULTRAVIOLET RADIATION**  
Ultraviolet radiation resistant alkali-metal  
silicate coatings for temperature control of  
spacecraft  
[NASA-CASE-XGS-04119] c18 N69-39979  
Development of ultraviolet resonance lamp with  
improved transmission of radiation  
[NASA-CASE-ARC-10030] c09 N71-12521  
Gas leak detection in evacuated systems using  
ultraviolet radiation probe  
[NASA-CASE-ERC-10034] c15 N71-24896  
Phototropic composition of matter with  
sensitivity to ultraviolet light and usable  
for producing positive photographic images  
[NASA-CASE-XGS-03736] c14 N72-22443  
Transmitting and reflecting diffuser  
[NASA-CASE-LAR-10385-3] c23 N73-32538  
Transmitting and reflecting diffuser --- for  
ultraviolet light  
[NASA-CASE-LAR-10385-2] c23 N74-13436  
Ultraviolet and thermally stable polymer  
compositions  
[NASA-CASE-ARC-10592-1] c18 N74-21156  
Light shield and cooling apparatus --- high  
intensity ultraviolet lamp  
[NASA-CASE-LAR-10089-1] c15 N74-23066  
Flame detector operable in presence of proton  
radiation  
[NASA-CASE-MFS-21577-1] c03 N74-29410  
Method and apparatus for generating coherent  
radiation in the ultra-violet region and above  
by use of distributed feedback  
[NASA-CASE-NPO-13346-1] c36 N76-29575  
Ultraviolet and thermally stable polymer  
compositions  
[NASA-CASE-ARC-10592-2] c27 N76-32315
- ULTRAVIOLET REFLECTION**  
Composition and production method of alkali  
metal silicate paint with ultraviolet  
reflection properties  
[NASA-CASE-XGS-04799] c18 N71-24183  
Ultraviolet light reflective coating  
[NASA-CASE-GSC-11786-1] c24 N76-24363
- ULTRAVIOLET SPECTRA**  
Ultraviolet chromatographic detector for  
quantitative and qualitative analysis of  
compounds  
[NASA-CASE-HQN-10756-1] c14 N72-25428
- ULTRAVIOLET SPECTROMETERS**  
Concave grating spectrometer for use in near and  
vacuum ultraviolet regions  
[NASA-CASE-XGS-01036] c14 N70-40003  
Telespectrograph for analyzing upper atmosphere  
by tracking bodies reentering atmosphere at  
high velocities  
[NASA-CASE-XLA-03273] c14 N71-18699
- UMBILICAL CONNECTORS**  
Umbilical separator for rockets  
[NASA-CASE-XNP-00425] c11 N70-38202  
Remotely actuated quick disconnect mechanism for  
umbilical cables  
[NASA-CASE-XLA-00711] c03 N71-12258  
Remotely actuated quick disconnect for tubular  
umbilical conduits used to transfer fluids  
from ground to rocket vehicle  
[NASA-CASE-XLA-01396] c03 N71-12259  
Internal and external serpentine devices for  
performing physical operations around orbital  
space stations  
[NASA-CASE-XMP-05344] c31 N71-16345  
Breakaway multiwire electrical cable connector  
with particular application for umbilical type  
cables  
[NASA-CASE-NPO-11140] c15 N72-17455  
Gas operated quick disconnect coupling for  
umbilical connectors  
[NASA-CASE-NPO-11202] c15 N72-25450  
Deployable flexible tunnel  
[NASA-CASE-MFS-22636-1] c37 N76-22540
- UMBILICAL TOWERS**  
Emergency escape cabin system for launch towers  
[NASA-CASE-XKS-02342] c05 N71-11199
- UNDERWATER ENGINEERING**  
Ejectable underwater sound source recovery  
assembly  
[NASA-CASE-LAR-10595-1] c15 N74-16135
- UNDERWATER TESTS**  
Pressure regulator for space suit worn  
underwater to simulate space environment for  
testing and experimentation  
[NASA-CASE-MFS-20332] c05 N72-20097  
Underwater space suit pressure control regulator  
[NASA-CASE-MFS-20332-2] c05 N73-25125
- UNIFORM FLOW**  
Wind tunnel flow generation section  
[NASA-CASE-ARC-10710-1] c09 N75-12969
- UNLOADING**  
Bootstrap unloading circuits for sampling  
transducer voltage sources without drawing  
current  
[NASA-CASE-XNP-09768] c09 N71-12516
- UNMANNED SPACECRAFT**  
Device which separates and screens particles of  
soil samples for vidicon viewing in vacuum and  
reduced gravity environments  
[NASA-CASE-XNP-09770-3] c11 N71-27036
- UPPER ATMOSPHERE**  
Telespectrograph for analyzing upper atmosphere  
by tracking bodies reentering atmosphere at  
high velocities  
[NASA-CASE-XLA-03273] c14 N71-18699  
Development and operation of apparatus for  
sampling particulates in gases in upper  
atmosphere  
[NASA-CASE-HQN-10037-1] c14 N73-27376  
Rocket having barium release system to create  
ion clouds in the upper atmosphere  
[NASA-CASE-LAR-10670-2] c31 N74-27360
- UREAS**  
Aldehyde-containing urea-absorbing polysaccharides  
[NASA-CASE-NPO-13620-1] c23 N76-26278
- URINALYSIS**  
Automated fluid chemical analyzer for  
microchemical analysis of small quantities of  
liquids by use of selected reagents and  
analyzer units  
[NASA-CASE-XNP-09451] c06 N71-26754  
Enzymatic luminescent bioassay method for  
determining bacterial levels in urine  
[NASA-CASE-GSC-11092-2] c04 N73-27052  
Automatic device for assaying urine on bacterial  
adenosine triphosphate content  
[NASA-CASE-GSC-11169-2] c05 N73-32011
- URINATION**  
Open type urine receptacle with tubular housing  
[NASA-CASE-MSC-12324-1] c05 N72-22093
- V GROOVES**  
Vee-notching device --- with adjustable carriage  
[NASA-CASE-MFS-20730-1] c14 N74-13131
- VACUUM**  
Hole mobility of deposited semiconductor films  
in vacuum utilizing thermal gradient  
[NASA-CASE-XKS-04614] c15 N69-21460

- Operating properties of superconducting magnet in vacuum environment  
[NASA-CASE-XNP-06503] c23 N71-29049
- VACUUM APPARATUS**
- Null-type vacuum microbalance for measuring minute mechanical displacements  
[NASA-CASE-XAC-00472] c15 N70-40180
- Sealing evacuation port and evacuating vacuum container such as space jackets  
[NASA-CASE-XMP-03290] c15 N71-23256
- Apparatus for determining volatile condensable material present in polymeric products  
[NASA-CASE-XNP-09699] c06 N71-24607
- Oil trap for preventing diffusion pump backstreaming into evacuated system  
[NASA-CASE-GSC-10518-1] c15 N72-22489
- Inductance device with vacuum insulation and materials of low gas entrapping capability  
[NASA-CASE-LEW-10330-1] c09 N72-27226
- Development of apparatus for producing metal powder particles of controlled size  
[NASA-CASE-XLE-06461-2] c17 N72-28535
- Portable vacuum probe surface sampler for sampling large surface areas with relatively light loading densities of microorganisms  
[NASA-CASE-LAR-10623-1] c14 N73-30395
- Servo valve  
[NASA-CASE-LAR-11643-1] c37 N75-13268
- Vacuum leak detector  
[NASA-CASE-LAR-11237-1] c35 N75-19612
- Apparatus for positioning modular components on a vertical or overhead surface  
[NASA-CASE-LAR-11465-1] c37 N76-21554
- VACUUM CHAMBERS**
- High-vacuum condenser tank for testing ion rocket engines  
[NASA-CASE-XLE-00168] c11 N70-33278
- Portable electron beam welding chamber  
[NASA-CASE-LEW-11531] c15 N71-14932
- Space environmental work simulator with portions of space suit mounted to vacuum chamber wall  
[NASA-CASE-XMP-07488] c11 N71-18773
- Ionization control system design for monitoring separately located ion gage pressures on vacuum chambers  
[NASA-CASE-XLE-00787] c14 N71-21090
- Coherent light beam device and method for measuring gas density in vacuum chambers  
[NASA-CASE-XER-11203] c14 N71-28994
- Transferring liquid nitrogen through vacuum chamber to cryopanel  
[NASA-CASE-LAR-10031] c15 N72-22484
- Vacuum chamber with scale model of rocket engine base area of space vehicle  
[NASA-CASE-MPS-20620] c11 N72-27262
- Packless valve for use with evacuation chamber with adapter for attachment to vacuum line and vacuum pump  
[NASA-CASE-LAR-10061-1] c15 N72-31483
- Apparatus for analyzing gas samples in containers including vacuum chamber, mass spectrometer, and gas chromatography  
[NASA-CASE-GSC-10903-1] c14 N73-12444
- Design and development of test stand system for supporting test items in vacuum chamber  
[NASA-CASE-MPS-21362] c11 N73-20267
- VACUUM DEPOSITION**
- Deposition method for epitaxial beta SiC films having high degree of crystallographic perfection  
[NASA-CASE-ERC-10120] c26 N69-33482
- Describing apparatus used in vacuum deposition of thin film inductive windings for spacecraft microcircuitry  
[NASA-CASE-XMP-01667] c15 N71-17647
- Sputter proof evaporant source design for use in vacuum deposition of solid thin films on substrates  
[NASA-CASE-XMP-06065] c15 N71-20395
- Device for high vacuum film deposition with electromagnetic ion steering  
[NASA-CASE-NPO-10331] c09 N71-26701
- VACUUM FURNACES**
- Apparatus for inserting and removing specimens from high temperature vacuum furnaces  
[NASA-CASE-LAR-10841-1] c15 N74-27900
- VACUUM GAGES**
- Simulating operation of thermopile vacuum gage tube at high and low pressures  
[NASA-CASE-XLA-02758] c14 N71-18481
- Calibration of vacuum gauges for measuring total and partial pressures in ultrahigh vacuum region  
[NASA-CASE-XGS-07752] c14 N73-30390
- Ionization gage for measuring ultrahigh vacuum levels  
[NASA-CASE-XLA-05087] c14 N73-30391
- In situ transfer standard for ultrahigh vacuum gage calibration  
[NASA-CASE-LAR-10862-1] c14 N74-15092
- VACUUM MELTING**
- Electric furnace for vacuum and zero gravity melting of high melting point materials during earth orbit  
[NASA-CASE-MPS-20710] c11 N72-23215
- A process for forming a crystalline film --- in weightless environment  
[NASA-CASE-MPS-23226-1] c76 N75-33861
- VACUUM SYSTEMS**
- Shrink-fit vacuum system gas valve  
[NASA-CASE-XGS-00587] c15 N70-35087
- Leakproof soft metal seal for use in very high vacuum systems operating at cryogenic temperatures  
[NASA-CASE-XGS-02441] c15 N70-41629
- Describing hot filament type Bayard-Alpert ionization gage with ion collector buried or removed from grid structure  
[NASA-CASE-XLA-07424] c14 N71-18482
- Describing sorption vacuum trap having housing with group of reentrant wall portions projecting into internal gas-pervious container filled with gas and vapor sorbent material  
[NASA-CASE-XER-09519] c14 N71-18483
- Vacuum leak detector  
[NASA-CASE-LAR-11237-1] c35 N75-19612
- VACUUM TUBES**
- Integrated structure vacuum tube  
[NASA-CASE-ARC-10445-1] c31 N76-31365
- VALUE**
- High impact pressure regulator having minimum number of lightweight movable elements  
[NASA-CASE-NPO-10175] c14 N71-18625
- VALVES**
- Actuator using compressed gas as driving force to control valve handling large liquid flows  
[NASA-CASE-XHQ-01208] c15 N70-35409
- Two component valve assembly for cryogenic liquid transfer regulation  
[NASA-CASE-XLE-00397] c15 N70-36492
- High pressure four-way valve with O ring adapted to pass across inlet port  
[NASA-CASE-XNP-00214] c15 N70-36908
- Reinforcing beam system for highly flexible diaphragms in valves or pressure switches  
[NASA-CASE-XNP-01962] c32 N70-41370
- Multiple vortex amplifier system as fluid valve  
[NASA-CASE-XMP-04709] c15 N71-15609
- Throttle valve for regulating fluid flow volume  
[NASA-CASE-XNP-09698] c15 N71-18580
- Development and characteristics of high pressure control valve  
[NASA-CASE-MSC-11010] c15 N71-19485
- Valve seat with resilient support ring for venting valves subjected to high pressure sealing loads  
[NASA-CASE-XKS-02582] c15 N71-21234
- Positive locking check valve for stopping reversed flow  
[NASA-CASE-XMS-09310] c15 N71-22706
- Valve assembly for controlling simultaneously more than one fluid flow, and having stable qualities under loads  
[NASA-CASE-XMS-05890] c09 N71-23191
- Segmented sealing surface in valve seat  
[NASA-CASE-NPO-10606] c15 N72-25451
- Packless valve for use with evacuation chamber with adapter for attachment to vacuum line and vacuum pump  
[NASA-CASE-LAR-10061-1] c15 N72-31483
- Flow control valve --- for high temperature fluids  
[NASA-CASE-NPO-11951-1] c15 N74-21065
- Airlock  
[NASA-CASE-MPS-20922-1] c15 N74-22136
- VANES**
- Design and characteristics of device for sensing solar radiation and providing spacecraft attitude control to maintain direction with

respect to incident radiation  
[NASA-CASE-XNP-05535] c14 N71-23040

Rotary vane attenuator with two stators and intermediary rotor, using resistive and orthogonally disposed cards  
[NASA-CASE-NPO-11418-1] c14 N73-13420

**VAPOR DEPOSITION**  
Deposition method for epitaxial beta SiC films having high degree of crystallographic perfection  
[NASA-CASE-ERC-10120] c26 N69-33482

Device for producing high purity silicon carbide on carbon base by hydrogen reduction of silicon tetrachloride  
[NASA-CASE-XLA-02057] c26 N70-40015

Water content in vapor deposition atmosphere for forming n-type and p-type junctions of zinc doped gallium arsenide  
[NASA-CASE-XNP-01961] c26 N71-29156

Vapor deposition method for forming metallized tungsten contacts on silicon substrates  
[NASA-CASE-GSC-10695-1] c09 N72-25259

Means of vapor deposition using electric current and evaporator filament  
[NASA-CASE-LAR-10541-1] c15 N72-32487

Deposition of alloy films --- on irregularly shaped metal object  
[NASA-CASE-LRW-11262-1] c18 N74-13270

System for depositing thin films  
[NASA-CASE-MPS-20775-1] c31 N75-12161

Vapor deposition apparatus --- semiconductors and gallium arsenides  
[NASA-CASE-HQN-10462] c25 N75-29192

**VAPOR PHASES**  
Method and feed system for separating and orienting liquid and vapor phases of liquid propellants in zero gravity environment  
[NASA-CASE-XLE-01182] c27 N71-15635

Gallium arsenide solar cell preparation by surface deposition of cuprous iodide on thin n-type polycrystalline layers and heating in iodine vapor  
[NASA-CASE-XNP-01960] c09 N71-23027

Mixed liquid and vapor phase analyzer design with thermocouples for relative heat transfer measurement  
[NASA-CASE-NPO-10691] c14 N71-26199

Electronic recording system for spatial mass distribution of liquid rocket propellant droplets or vapors ejected from high velocity nozzles  
[NASA-CASE-NPO-10185] c10 N71-26339

Low gravity phase separator  
[NASA-CASE-MSC-14773-1] c31 N75-32262

Photon excited catalysis  
[NASA-CASE-NPO-13566-1] c25 N76-17216

**VAPOR PRESSURE**  
Fuel tank pressure-relief device for venting cryogenic liquid vapors through tubes with porous plug  
[NASA-CASE-XLE-00288] c15 N70-34247

Vapor-liquid separator design with vapor driven pump for separated liquid pumping for application in propellant transfer  
[NASA-CASE-XMP-04042] c15 N71-23023

**VAPOR TRAPS**  
Describing sorption vacuum trap having housing with group of reentrant wall portions projecting into internal gas-pervious container filled with gas and vapor sorbent material  
[NASA-CASE-XER-09519] c14 N71-18483

**VAPORIZERS**  
Vapor generating boiler system for turbine motor  
[NASA-CASE-XLE-00785] c33 N71-16104

**VAPORIZING**  
Apparatus and process for volumetrically dispensing reagent quantities of volatile chemicals for small batch reactions  
[NASA-CASE-NPO-10070] c15 N71-27372

Development of method for controlling vapor content of gas  
[NASA-CASE-NPO-10633] c03 N72-28025

**VARACTOR DIODE CIRCUITS**  
Phase modulator with tuned variable length electrical lines including coupling and varactor diode circuits  
[NASA-CASE-MSC-13201-1] c07 N71-28429

**VARACTOR DIODES**

Varactor microwave frequency mixing circuit  
[NASA-CASE-XGS-02171] c09 N69-24324

Multiple varactor for generating high frequencies with high power and high conversion efficiency  
[NASA-CASE-XMP-04958-1] c10 N71-26414

Millimeter wave pumped parametric amplifier  
[NASA-CASE-GSC-11617-1] c09 N74-32660

**VARIABLE GEOMETRY STRUCTURES**  
Aerospace configuration with low and high aspect ratio variability for high and low speed flight  
[NASA-CASE-XLA-00142] c02 N70-33286

Variable geometry wind tunnel for testing aircraft models at subsonic speeds  
[NASA-CASE-XLA-07430] c11 N72-22246

**VARIABLE SWEEP WINGS**  
Variable sweep wing configuration for supersonic aircraft  
[NASA-CASE-XLA-00230] c02 N70-33255

Variable aspect ratio and variable sweep delta wing planforms for supersonic aircraft  
[NASA-CASE-XLA-00221] c02 N70-33266

Supersonic aircraft configuration providing for variable aspect ratio and variable sweep wings  
[NASA-CASE-XLA-00166] c02 N70-34178

Supersonic aircraft variable sweep wing planform for varying aspect ratio  
[NASA-CASE-XLA-00350] c02 N70-38011

Development and characteristics of variable sweep wing control system for supersonic aircraft  
[NASA-CASE-XLA-03659] c02 N71-11041

Design of dual fuselage aircraft with pivoting wing and horizontal stabilizer to permit yawing of wing in flight for high speed operation  
[NASA-CASE-ARC-10470-1] c02 N73-26005

**VARIABLE THRUST**  
Variable thrust ion engine using thermal decomposition of solid cesium compound to produce propulsive vapor  
[NASA-CASE-XMF-00923] c28 N70-36802

Continuous variation of propellant flow and thrust by application of liquid foam flow theory to injection orifice  
[NASA-CASE-XLE-00177] c28 N70-40367

**VARIATIONS**  
Gearing system for eliminating backlash and filtering input torque fluctuations from high inertia load  
[NASA-CASE-XGS-04227] c15 N71-21744

**VECTOR ANALYSIS**  
Development of two force component measuring device  
[NASA-CASE-XAC-04886-1] c14 N71-20439

**VECTORCARDIOGRAPHY**  
Electromedical garment, applying vectorcardiologic type electrodes to human torsos for data recording during physical activity  
[NASA-CASE-XPR-10856] c05 N71-11189

**VEGETATION GROWTH**  
Rotary plant growth accelerating apparatus --- weightlessness  
[NASA-CASE-ARC-10722-1] c51 N75-25503

Remote sensing of vegetation and soil using microwave ellipsometry  
[NASA-CASE-GSC-11976-1] c43 N76-23671

**VEHICLE WHEELS**  
Resilient vehicle wheel for lunar surface travel  
[NASA-CASE-MPS-20400] c31 N71-18611

Resilient wheel design with woven wire tire and abrasive treads for lunar surface vehicles  
[NASA-CASE-MPS-13929] c15 N71-27091

Omnidirectional wheel  
[NASA-CASE-MPS-21309-1] c15 N74-18125

Two speed drive system --- mechanical device for changing speed on rotating vehicle wheel  
[NASA-CASE-MPS-20645-1] c15 N74-23070

An improved fifth wheel  
[NASA-CASE-FRC-10081-1] c37 N75-29432

**VELOCITY**  
Velocity limiting safety system for motor driven research vehicle  
[NASA-CASE-XLA-07473] c15 N71-24895

**VELOCITY MEASUREMENT**  
Particle detector for measuring micrometeoroid velocity in space



- [NASA-CASE-XLA-00495] c14 N70-41332  
Superconductive accelerometer employing variable force principle to determine acceleration of bodies
- [NASA-CASE-XMF-01099] c14 N71-15969  
Device for determining acceleration of gravity by interferometric measurement of travel of falling body
- [NASA-CASE-XMF-05844] c14 N71-17587  
Describing laser Doppler velocimeter for measuring mean velocity and turbulence of fluid flow
- [NASA-CASE-MFS-20386] c21 N71-19212  
Momentum-velocity analyzer for measuring minute space particles
- [NASA-CASE-XMS-04201] c14 N71-22990  
Development of combined velocimeter and accelerometer based on color changes in liquid crystalline material subjected to shear stresses
- [NASA-CASE-ERC-10292] c14 N72-25410  
Instrument for measuring magnitude and direction of flow velocity in flow field
- [NASA-CASE-LAR-10855-1] c14 N73-13415  
Doppler shift system --- system for measuring velocities of radiating particles
- [NASA-CASE-HQN-10740-1] c24 N74-19310  
Tachometer
- [NASA-CASE-MFS-23175-1] c35 N76-19409  
Velocity measurement system
- [NASA-CASE-MFS-23363-1] c35 N76-33469
- VELOCITY MODULATION**  
Selector mechanism for mechanical separation and discrimination of high velocity molecular particles
- [NASA-CASE-XLF-1533] c11 N71-10777  
Describing device for velocity control of electromechanical drive mechanism of scanning mirror of interferometer
- [NASA-CASE-XGS-03532] c14 N71-17627
- VENTILATORS**  
Heat sterilizable patient ventilator
- [NASA-CASE-NPO-13313-1] c54 N75-27761
- VENTING**  
Fuel tank pressure-relief device for venting cryogenic liquid vapors through tubes with porous plug
- [NASA-CASE-XLE-00288] c15 N70-34247  
Venting device for liquid propellant storage tank using magnetic field to separate liquid and gaseous phases
- [NASA-CASE-XLE-01449] c15 N70-41646  
Valve seat with resilient support ring for venting valves subjected to high pressure sealing loads
- [NASA-CASE-XKS-02582] c15 N71-21234  
Venting device for pressurized space suit helmet to eliminate vomit expelled by crewmen
- [NASA-CASE-XMS-09652-1] c05 N71-26333  
Solid propellant rocket engine with venting system to control effective nozzle throat area
- [NASA-CASE-XNP-03282] c28 N72-20758
- VENUS (PLANET)**  
Space simulator with uniform test region radiation distribution, adapted to simulate Venus solar radiations
- [NASA-CASE-XNP-00459] c11 N70-38675
- VERTICAL FLIGHT**  
Aircraft indicator for pilot control of takeoff roll, climbout path and verticle flight path in poor visibility conditions
- [NASA-CASE-XLA-00487] c14 N70-40157
- VERTICAL LANDING**  
Vertically descending flight vehicle landing gear for rough terrain
- [NASA-CASE-XNP-01174] c02 N70-41589
- VERTICAL TAKEOFF AIRCRAFT**  
Mechanical stabilization system for VTOL aircraft
- [NASA-CASE-XLA-06339] c02 N71-13422  
Development of attitude control system for vertical takeoff aircraft using reaction nozzles displaced from various axes of aircraft
- [NASA-CASE-XAC-08972] c02 N71-20570
- VERY HIGH FREQUENCIES**  
VHF/UHF parasitic probe antenna for spacecraft communication
- [NASA-CASE-XKS-09340] c07 N71-24614
- VESTS**  
Lightweight life preserver without fastening devices
- [NASA-CASE-XMS-00864] c05 N70-36493
- VIBRATION**  
Three stage motion restraining mechanism for restraining and damping three dimensional vibrational movement of gimballed package during launch of spacecraft
- [NASA-CASE-GSC-10306-1] c15 N71-24694  
Vibration control of flexible bodies in steady accelerating environment
- [NASA-CASE-LAR-10106-1] c15 N71-27169
- VIBRATION DAMPING**  
Mercury filled pendulum damper for controlling bending vibration induced by wind effects
- [NASA-CASE-LAR-10274-1] c14 N71-17626  
Digital filter for reducing jitter in digital control systems
- [NASA-CASE-NPO-11088] c08 N71-29034  
Blade vibration damping pins for turbomachinery
- [NASA-CASE-XLE-00155] c28 N71-29154
- VIBRATION EFFECTS**  
Electromagnetic energy detection by thermal sensor with vibrating electrode
- [NASA-CASE-XAC-10768] c09 N71-18830  
Development of ultrasonic radiation equipment for removing material from host surface and vacuum apparatus for recovery of material
- [NASA-CASE-NPO-11213] c15 N73-20514  
Development of optical system for detecting defective components in rotating machinery with emphasis on bearing assemblies
- [NASA-CASE-KSC-10752-1] c15 N73-27407
- VIBRATION ISOLATORS**  
Shock and vibration damping device using temperature sensitive solid amorphous polymers
- [NASA-CASE-XAC-11225] c14 N69-27486  
Miniature vibration isolator utilizing elastic tubing material
- [NASA-CASE-XLA-01019] c15 N70-40156  
Vibration damping system operating in low vacuum environment for spacecraft mechanisms
- [NASA-CASE-XMS-01620] c23 N71-15673  
Hermetically sealed vibration damper design for use in gimbal assembly of spacecraft inertial guidance system
- [NASA-CASE-MSC-10959] c15 N71-26243  
Tuned damped vibration absorber for mass vibrating in more than one degree of freedom for use with wind tunnel models
- [NASA-CASE-LAR-10083-1] c15 N71-27006  
Vibration isolation system, using coaxial helical compression springs
- [NASA-CASE-NPO-11012] c15 N72-11391  
Thrust-isolating mounting --- characteristics of support for loads mounted in spacecraft
- [NASA-CASE-MFS-21680-1] c32 N74-27397  
Shock absorbing mount for electrical components
- [NASA-CASE-NPO-13253-1] c37 N75-18573
- VIBRATION MEASUREMENT**  
Development of system for measuring damping characteristics of structure or system subjected to random forces or influences
- [NASA-CASE-ARC-10154-1] c14 N72-22440  
Method and apparatus for vibration analysis utilizing the Mossbauer effect
- [NASA-CASE-XMF-05882] c35 N75-27329
- VIBRATION METERS**  
Fiber optic transducers for monitoring and analysis of vibration in aerospace vehicles and onboard equipment
- [NASA-CASE-XMF-02433] c14 N71-10616
- VIBRATION MODE**  
Function generators for producing complex vibration mode patterns used to identify vibration mode data
- [NASA-CASE-LAR-10310-1] c10 N73-20253
- VIBRATION SIMULATORS**  
Equipment for vibration testing of assemblies, components, and other articles
- [NASA-CASE-GSC-11302-1] c14 N73-13416
- VIBRATION TESTS**  
Electronic detection system for peak acceleration limits in vibrational testing of spacecraft components
- [NASA-CASE-NPO-10556] c14 N71-27185  
Fixture for supporting articles during vibration tests comprising integral annular unit
- [NASA-CASE-MFS-20523] c14 N72-27412  
Equipment for vibration testing of assemblies, components, and other articles

- [NASA-CASE-GSC-11302-1] c14 N73-13416  
 Multiaxial vibration device for making vibration tests along orthogonal axes of test specimen  
 [NASA-CASE-WFS-20242] c14 N73-19421
- VIBRATIONAL SPECTRA**  
 Tuned damped vibration absorber for mass vibrating in more than one degree of freedom for use with wind tunnel models  
 [NASA-CASE-LAR-10083-1] c15 N71-27006
- VIDEO COMMUNICATION**  
 Circuitry for generating sync signals in FM communication systems including video information  
 [NASA-CASE-XNP-10830] c07 N71-11281  
 Monitoring circuit design for sampling circuit control and reduction of time-bandwidth in video communication systems  
 [NASA-CASE-XNP-02791] c07 N71-23026  
 Teletypewriter video communication system and apparatus  
 [NASA-CASE-XNP-06611] c07 N71-26102  
 A sampling video compression system  
 [NASA-CASE-ARC-10984-1] c32 N76-24436
- VIDEO DATA**  
 TV camera output signal control system for digital spacecraft communication  
 [NASA-CASE-XNP-01472] c14 N70-41807  
 Transient video signal tape recorder with expanded playback  
 [NASA-CASE-ARC-10003-1] c09 N71-25866  
 Restoration and improvement of demodulated facsimile video signals  
 [NASA-CASE-GSC-10185-1] c07 N72-12081  
 Dual digital video switcher  
 [NASA-CASE-KSC-10782-1] c33 N75-30431
- VIDEO EQUIPMENT**  
 Video signal processing system for sampling video brightness levels  
 [NASA-CASE-NPO-10140] c07 N71-24742  
 Video sync processor with phase locked system  
 [NASA-CASE-KSC-10002] c10 N71-25865  
 Teletypewriter video communication system and apparatus  
 [NASA-CASE-XNP-06611] c07 N71-26102  
 Video signal enhancement of signal component representing brightness of scene element in low contrast  
 [NASA-CASE-NPO-10343] c07 N71-27341  
 Circuitry for high input impedance video processor with high noise immunity  
 [NASA-CASE-NPO-10199] c09 N72-17156  
 Electronic video editor for switching video input signals to common output channel  
 [NASA-CASE-KSC-10003] c10 N73-13235  
 Video tape recorder with scan conversion playback for color television signals  
 [NASA-CASE-NPO-10166-1] c07 N73-22076  
 Scan converting video tape recorder  
 [NASA-CASE-NPO-10166-2] c35 N76-16391  
 Stack plume visualization system  
 [NASA-CASE-LAR-11675-1] c45 N76-17656
- VIDICONS**  
 Operation of vidicon tube for scanning spatial charge density pattern  
 [NASA-CASE-XNP-06028] c09 N71-23189  
 Device which separates and screens particles of soil samples for vidicon viewing in vacuum and reduced gravity environments  
 [NASA-CASE-XNP-09770-3] c11 N71-27036
- VINYL POLYMERS**  
 Method of producing output voltage from photovoltaic cell using poly-N-vinyl carbazole complexed with iodine  
 [NASA-CASE-NPO-10373] c03 N71-18698  
 Heat resistant polymers of oxidized styrylphosphine  
 [NASA-CASE-MSC-14903-1] c27 N76-28425
- VINYLDENE**  
 Preparation of dicyanoacetylene and vinylidene copolymers using organic compounds  
 [NASA-CASE-XNP-03250] c06 N71-23500
- VISCOELASTICITY**  
 Automated ball rebound resilience test equipment for determining viscoelastic properties of polymers  
 [NASA-CASE-XLA-08254] c14 N71-26161  
 Development and characteristics of parallel plate viscometer for determination of absolute viscosity of liquids and viscoelastic materials
- [NASA-CASE-NPO-11387] c14 N73-14429  
 Shock absorbing mount for electrical components  
 [NASA-CASE-NPO-13253-1] c37 N75-18573
- VISCOMETERS**  
 Describing instrument capable of measuring true shear viscosity of liquids and viscoelastic materials  
 [NASA-CASE-XNP-09462] c14 N71-17584  
 Development and characteristics of parallel plate viscometer for determination of absolute viscosity of liquids and viscoelastic materials  
 [NASA-CASE-NPO-11387] c14 N73-14429
- VISCOSITY**  
 Low density and low viscosity magnetic propellant for use under zero gravity conditions  
 [NASA-CASE-XLE-01512] c12 N70-40124
- VISCOUS DAMPING**  
 Shock and vibration damping device using temperature sensitive solid amorphous polymers  
 [NASA-CASE-XAC-11225] c14 N69-27486  
 Design and operation of viscous pendulum damper  
 [NASA-CASE-XLA-02079] c12 N71-16894  
 Mercury filled pendulum damper for controlling bending vibration induced by wind effects  
 [NASA-CASE-LAR-10274-1] c14 N71-17626
- VISIBILITY**  
 Controlled visibility device for simulating poor visibility conditions in training pilots in instrument landing and flight procedures  
 [NASA-CASE-XPR-04147] c11 N71-10748
- VISORS**  
 Anti-fog composition --- for prevention of fogging on surfaces such as space helmet visors and windshields  
 [NASA-CASE-MSC-13530-2] c23 N75-14834
- VISUAL ACUITY**  
 Multiparameter vision testing apparatus  
 [NASA-CASE-MSC-13601-2] c54 N75-27759
- VISUAL AIDS**  
 Optical instrument employing reticle having preselected visual response pattern formed thereon  
 [NASA-CASE-ARC-10976-1] c74 N76-20959
- VISUAL CONTROL**  
 Visual target luminaires for retrofire attitude control  
 [NASA-CASE-XMS-12158-1] c31 N69-27499
- VISUAL FIELDS**  
 Automated visual sensitivity tester for determining visual field sensitivity and blind spot size  
 [NASA-CASE-ARC-10329-1] c05 N73-26072  
 Visual examination apparatus  
 [NASA-CASE-RE-ARC-10329-2] c52 N76-30793
- VISUAL PERCEPTION**  
 High pressure liquid flow sight assembly for wide temperature range applications including cryogenic fluids  
 [NASA-CASE-XLE-02998] c14 N70-42074
- VISUAL STIMULI**  
 Reaction tester for testing reaction to light stimuli  
 [NASA-CASE-MSC-13604-1] c05 N73-13114
- VOICE COMMUNICATION**  
 Position locating system for remote aircraft using voice communication and digital signals  
 [NASA-CASE-GSC-10087-2] c21 N71-13958  
 Earth satellite relay station for frequency multiplexed voice transmission  
 [NASA-CASE-GSC-10118-1] c07 N71-24621  
 Voice operated receiving and transmitting system for use in protective suits  
 [NASA-CASE-KSC-10164] c07 N71-33108  
 Technique for recovery of voice data from heat damaged magnetic tape  
 [NASA-CASE-MSC-14219-1] c07 N74-27612  
 Filtering device --- removing electromagnetic noise from voice communication signals  
 [NASA-CASE-MPS-22729-1] c32 N76-21366  
 Real time analysis of voiced sounds  
 [NASA-CASE-NPO-13465-1] c32 N76-31372
- VOICE DATA PROCESSING**  
 Digital communication system  
 [NASA-CASE-MSC-13912-1] c07 N74-30524
- VOIDS**  
 Improved bimetallic junctions  
 [NASA-CASE-LEN-11573-1] c26 N76-13267
- VOLATILITY**  
 Apparatus for determining volatile condensable

- material present in polymeric products  
[NASA-CASE-XNP-09699] c06 N71-24607
- VOLT-AMPERE CHARACTERISTICS**  
Simulating voltage-current characteristic curves of solar cell panel with different operational parameters  
[NASA-CASE-XMS-01554] c10 N71-10578
- Phase substitution of spare converter for a failed one of parallel phase staggered converters  
[NASA-CASE-NPO-13812-1] c33 N76-31413
- VOLTAGE AMPLIFIERS**  
Increasing power conversion efficiency of electronic amplifiers by power supply switching  
[NASA-CASE-XMS-00945] c09 N71-10798
- Bootstrap unloading circuits for sampling transducer voltage sources without drawing current  
[NASA-CASE-XNP-09768] c09 N71-12516
- RC networks with voltage amplifier, RC input circuit, and positive feedback  
[NASA-CASE-ARC-10020] c10 N72-17172
- Wide range analog to digital converter with variable gain amplifier  
[NASA-CASE-NPO-11018] c08 N72-21200
- VOLTAGE CONVERTERS (DC TO DC)**  
Regulated dc-to-dc converter for voltage step-up or step-down with input-output isolation  
[NASA-CASE-HQN-10792-1] c09 N74-11049
- The dc-to-dc converters employing staggered phase power switches with two loop control  
[NASA-CASE-NPO-13512-1] c33 N75-15876
- Phase substitution of spare converter for a failed one of parallel phase staggered converters  
[NASA-CASE-NPO-13812-1] c33 N76-31413
- VOLTAGE GENERATORS**  
Pulsed energy power system for application of combustible gases to turbine controlling ac voltage generator  
[NASA-CASE-MSC-13112] c03 N71-11057
- Biotelemetry apparatus with dual voltage generators for implanting in animals  
[NASA-CASE-XAC-05706] c05 N71-12342
- Transistorized circuit for producing multiple slope voltage sweep  
[NASA-CASE-XMS-03542] c09 N71-28926
- Inductive-capacitive loops as load insensitive power converters  
[NASA-CASE-ERC-10268] c09 N72-25252
- VOLTAGE REGULATORS**  
Regulated dc to dc converter  
[NASA-CASE-XGS-03429] c03 N69-21330
- Power control switching circuit using low voltage semiconductor controlled rectifiers for high voltage isolation  
[NASA-CASE-XNP-02713] c10 N69-39888
- Automatic measuring and recording of gain and zero drift characteristics of electronic amplifier  
[NASA-CASE-XMS-05562-1] c09 N69-39986
- Automatic control of voltage supply to direct current motor  
[NASA-CASE-XMS-04215-1] c09 N69-39987
- Design, development, and operating principles of power supply with starting circuit which is independent of voltage regulator  
[NASA-CASE-XMS-01991] c09 N71-21449
- High voltage divider system for attenuating high voltages to convenient levels suitable for introduction to measuring circuits  
[NASA-CASE-XLE-02008] c09 N71-21583
- Power supply with overload protection for series stage transistor  
[NASA-CASE-XMS-00913] c10 N71-23543
- Voltage controlled, variable frequency relaxation oscillator with MOSFET variable current feed  
[NASA-CASE-GSC-10022-1] c10 N71-25882
- Design and development of buck-boost voltage regulator circuit with additive or subtractive alternating current impressed on variable direct current source voltage  
[NASA-CASE-GSC-10735-1] c10 N71-26085
- Voltage range selection apparatus for sensing and applying voltages to electronic instruments without loading signal source  
[NASA-CASE-XMS-06497] c14 N71-26244
- Dissipative voltage regulator system for minimizing heat dissipation  
[NASA-CASE-GSC-10891-1] c10 N71-26626
- Power point tracker for maintaining optimal output voltage of power source  
[NASA-CASE-GSC-10376-1] c14 N71-27407
- Microwave power divider for providing variable output power to output waveguide in fixed waveguide system  
[NASA-CASE-NPO-11031] c07 N71-33606
- Relay controlled voltage switching unit for scanning circuitry of star tracker  
[NASA-CASE-NPO-11253] c09 N72-17157
- Switching type voltage regulator with relatively simple circuit arrangement  
[NASA-CASE-LEW-11005-1] c09 N72-21243
- Inductive-capacitive loops as load insensitive power converters  
[NASA-CASE-ERC-10268] c09 N72-25252
- Regulated dc-to-dc converter for voltage step-up or step-down with input-output isolation  
[NASA-CASE-HQN-10792-1] c09 N74-11049
- Overvoltage protection network  
[NASA-CASE-ARC-10197-1] c09 N74-17929
- Low distortion automatic phase control circuit --- voltage controlled phase shifter  
[NASA-CASE-MPS-21671-1] c10 N74-22885
- The dc-to-dc converters employing staggered phase power switches with two loop control  
[NASA-CASE-NPO-13512-1] c33 N75-15876
- Voltage monitoring system  
[NASA-CASE-KSC-10736-1] c33 N75-19521
- VOLTMETERS**  
Voltage monitoring system  
[NASA-CASE-KSC-10736-1] c33 N75-19521
- VOMITING**  
Venting device for pressurized space suit helmet to eliminate vomit expelled by crewmen  
[NASA-CASE-XMS-09652-1] c05 N71-26333
- VORTEX BREAKDOWN**  
Wingtip vortex dissipator for aircraft  
[NASA-CASE-LAR-11645-1] c02 N74-26456
- VORTEX GENERATORS**  
Multiple vortex amplifier system as fluid valve  
[NASA-CASE-XNP-04709] c15 N71-15609
- Smokestack mounted airfoil  
[NASA-CASE-LAR-11669-1] c34 N76-13419
- Vortex generator controlling the dispersion of effluents in a flowing liquid  
[NASA-CASE-LAR-12045-1] c34 N76-23521
- VORTICES**  
Wingtip vortex dissipator for aircraft  
[NASA-CASE-LAR-11645-1] c02 N74-26456
- VULCANIZING**  
Method for compression molding of thermosetting plastics utilizing a temperature gradient across the plastic to cure the article  
[NASA-CASE-LAR-10489-1] c15 N74-18124

## W

## WAPERS

- Separation of semiconductor wafer into chips bounded by scribe lines  
[NASA-CASE-ERC-10138] c26 N71-14354
- An improved method and apparatus for use in examining the lattice of a semiconductor wafer by X-ray diffraction  
[NASA-CASE-MPS-23315-1] c76 N76-32029

## WALL TEMPERATURE

- Thermocouple apparatus for measuring wall temperatures in regeneratively cooled rocket engines having thin walled cooling passages  
[NASA-CASE-XLE-05230-2] c14 N73-13417
- Structural heat pipe --- for spacecraft wall thermal insulation system  
[NASA-CASE-GSC-11619-1] c34 N75-12222

## WALLS

- Metal ribbon wrapped outer wall for regeneratively cooled combustion chamber  
[NASA-CASE-XLE-00164] c15 N70-36411

## WARNING SYSTEMS

- Alarm system design for monitoring one or more relay circuits  
[NASA-CASE-XMS-10984-1] c10 N71-19417
- Unsaturating magnetic core transformer design with warning signal for electrical power processing equipment  
[NASA-CASE-ERC-10125] c09 N71-24893

- Electrical failure detector in solid rocket propellant motor insulation against thermal degradation by fuel grain  
[NASA-CASE-XMP-03968] c14 N71-27186
- Device for generating and controlling combustion products for testing of fire detection system  
[NASA-CASE-GSC-11095-1] c14 N72-10375
- Vertically stacked collinear array of independently fed omnidirectional antennas for use in collision warning systems on commercial aircraft  
[NASA-CASE-LAR-10545-1] c09 N72-21244
- Development and operating principles of collision warning system for aircraft accident prevention  
[NASA-CASE-HQN-10703] c21 N73-13643
- Pilot warning indicator system of intruder aircraft  
[NASA-CASE-ERC-10226-1] c14 N73-16483
- Silent alarm system for multiple room facility of school  
[NASA-CASE-NPO-11307-1] c10 N73-30205
- Development and characteristics of electronic signalling system and data processing equipment for warning systems to avoid midair collisions between aircraft  
[NASA-CASE-LAR-10717-1] c21 N73-30641
- Inverter ratio failure detector  
[NASA-CASE-NPO-13160-1] c14 N74-18090
- WASTE DISPOSAL**
- Fecal waste disposal container  
[NASA-CASE-XMS-06761] c05 N69-23192
- Airlock for waste transfer from pressurized enclosure aboard space vehicle to waste receiver at negative pressure  
[NASA-CASE-MPS-20922] c31 N72-20840
- Pressurized tank for feeding liquid waste into processing equipment  
[NASA-CASE-LAR-10365-1] c05 N72-27102
- Reduced gravity fecal collector seat and urinal  
[NASA-CASE-MPS-22102-1] c05 N74-20725
- Airlock  
[NASA-CASE-MPS-20922-1] c15 N74-22136
- Automatic liquid inventory collecting and dispensing unit  
[NASA-CASE-LAR-11071-1] c35 N75-19611
- Automatic biowaste sampling  
[NASA-CASE-MSC-14640-1] c54 N76-14804
- A process of forming catalytic surfaces for oxidation reactions  
[NASA-CASE-MSC-14831-1] c25 N76-23387
- WASTE ENERGY UTILIZATION**
- Pyrolysis system and process --- recovering energy from solid wastes containing hydrocarbons  
[NASA-CASE-MSC-12669-1] c44 N76-16621
- WATER**
- Variable water load for dissipating large amounts of electrical power during high voltage power supply tests  
[NASA-CASE-XNP-05381] c09 N71-20842
- Gas chromatographic method for determining water in nitrogen tetroxide rocket propellant  
[NASA-CASE-NPO-10234] c06 N72-17094
- Hydrogen rich gas generator  
[NASA-CASE-NPO-13342-1] c37 N76-16446
- Solar photolysis of water  
[NASA-CASE-NPO-13675-1] c44 N76-18680
- Solar hydrogen generator --- to decompose water into H<sub>2</sub> and O<sub>2</sub>  
[NASA-CASE-LAR-11361-1] c44 N76-19564
- WATER FLOW**
- Potable water dispenser  
[NASA-CASE-MPS-21115-1] c05 N74-12779
- WATER INJECTION**
- Reentry communication by injection of water droplets into plasma layer surrounding space vehicle  
[NASA-CASE-XLA-01552] c07 N71-11284
- WATER LANDING**
- Parachute system for lowering manned spacecraft from post-reentry to ocean landing  
[NASA-CASE-XLA-00195] c02 N70-38009
- Spacecraft design with single point aerodynamic and hydrodynamic stability for emergency transport of men from space station to splashdown  
[NASA-CASE-MSC-13281] c31 N72-18859
- WATER MANAGEMENT**
- Description of electrical equipment and system for purification of waste water by producing silver ions for bacterial control  
[NASA-CASE-MSC-10960-1] c03 N71-24718
- Solar-powered pump  
[NASA-CASE-NPO-13567-1] c44 N76-29701
- WATER POLLUTION**
- Utilization of solar radiation by solar still for converting salt and brackish water into potable water  
[NASA-CASE-XMS-04533] c15 N71-23086
- Portable tester for monitoring bacterial contamination by adenosine triphosphate light reaction  
[NASA-CASE-GSC-10879-1] c14 N72-25413
- WATER RECLAMATION**
- Potable water reclamation from human wastes in zero-G environment  
[NASA-CASE-XLA-03213] c05 N71-11207
- Iodine generator for reclaimed water purification  
[NASA-CASE-MSC-14632-1] c54 N75-25594
- WATER TEMPERATURE**
- Differential thermopile for measuring cooling water temperature rise  
[NASA-CASE-XAC-00812] c14 N71-15598
- WATER TREATMENT**
- Description of electrical equipment and system for purification of waste water by producing silver ions for bacterial control  
[NASA-CASE-MSC-10960-1] c03 N71-24718
- Method of preparing water purification membranes --- polymerization of allyl amine as thin films in plasma discharge  
[NASA-CASE-ARC-10643-1] c25 N75-12087
- Water purification process  
[NASA-CASE-ARC-10643-2] c51 N75-13506
- Iodine generator for reclaimed water purification  
[NASA-CASE-MSC-14632-1] c54 N75-25594
- Air removal device --- for purification of water under zero gravity conditions  
[NASA-CASE-XLA-8914-2] c34 N76-23522
- WATER VAPOR**
- Equipment for measuring partial water vapor pressure in gas tank  
[NASA-CASE-XMS-01618] c14 N71-20741
- WATERPROOFING**
- Glass-to-metal seals comprising relatively high expansion metals  
[NASA-CASE-LEW-10698-1] c15 N74-21063
- WAVE AMPLIFICATION**
- Distributed feedback acoustic surface wave oscillator  
[NASA-CASE-NPO-13673-1] c33 N75-32323
- WAVE FRONT RECONSTRUCTION**
- Recording and reconstructing focused image holograms  
[NASA-CASE-ERC-10017] c16 N71-15567
- WAVE GENERATION**
- Wind tunnel air flow modulating device and apparatus for selectively generating wave motion in wind tunnel airstream  
[NASA-CASE-XLA-00112] c11 N70-33287
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- Sign wave generation simulator for variable amplitude, frequency, damping, and phase pulses for oscilloscope display  
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- Wideband generator for producing sine wave quadrature and second harmonic of input signal  
[NASA-CASE-NPO-11133] c10 N72-20223
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[NASA-CASE-XNP-01383] c09 N71-10659
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[NASA-CASE-MSC-12395] c09 N72-25257
- Device for performing statistical time-series analysis of complex electrical signal waveforms  
[NASA-CASE-MSC-12428-1] c10 N73-25240
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[NASA-CASE-GSC-11898-1] c32 N75-22563
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[NASA-CASE-MSC-14557-1] c32 N76-16249
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Planar array circularly polarized antenna with wall slot excitation  
[NASA-CASE-NPO-10301] c07 N72-11148
- Dielectric loaded aperture antenna with directive radiation pattern from waveguide  
[NASA-CASE-LAR-11084-1] c09 N73-12216
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[NASA-CASE-XNP-03134] c07 N71-10676
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[NASA-CASE-XNP-05219] c16 N71-15550
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[NASA-CASE-ERC-10179] c07 N72-20141
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[NASA-CASE-LAR-10511-1] c09 N72-29172
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[NASA-CASE-XLA-00087] c02 N70-33332

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[NASA-CASE-XLA-00166] c02 N70-34178

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[NASA-CASE-LAR-11645-1] c02 N74-26456

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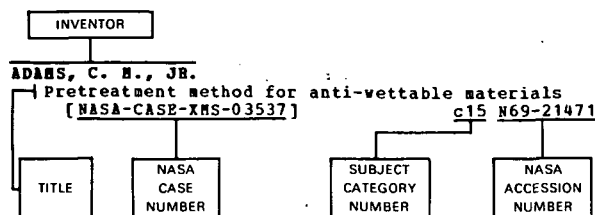
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[NASA-CASE-NPO-10764-2]	c35 N75-25122	[NASA-CASE-XMS-05936]	c14 N70-41682
REMPPEL, R. C.		RICHARDS, R. R.	
Optically pumped resonance magnetometer for determining vectoral components in a spatial coordinate system Patent		Method for detecting pollutants	
[NASA-CASE-XGS-04879]	c14 N71-20428	[NASA-CASE-LAR-11405-1]	c45 N76-31714
REMPFER, P. S.		RICHARDS, W. E.	
Aircraft control system		Method and apparatus for optical modulating a light signal Patent	
[NASA-CASE-ERC-10439]	c02 N73-19004	[NASA-CASE-GSC-10216-1]	c23 N71-26722
RENNER, W.		RICHARDSON, R. W.	
Bacteria detection instrument and method		Method for measuring cutaneous sensory perception	
[NASA-CASE-GSC-11533-1]	c14 N73-13435	[NASA-CASE-MSC-13609-1]	c05 N72-25122
REPAR, J.		RICHLEY, E. A.	
Rubber composition for use with hydrazine Patent		Rocket engine Patent	
Application		[NASA-CASE-XLE-00342]	c28 N70-37980
[NASA-CASE-NPO-11433]	c18 N71-31140	RICHMOND, J. C.	
REPAS, G. A.		Ellipsoidal mirror reflectometer including means for averaging the radiation reflected from the sample Patent	
Rocket propellant injection		[NASA-CASE-XGS-05291]	c23 N71-16341
[NASA-CASE-LEW-11071-1]	c27 N73-27695	RICHTER, C. G.	
REYNOLDS, J. M.		Formed metal ribbon wrap Patent	
Device and method for determining X ray reflection efficiency of optical surfaces		[NASA-CASE-XLE-00164]	c15 N70-36411
[NASA-CASE-MFS-20243]	c23 N73-13662	RICHTER, H. L.	
REYNOLDS, W. E.		Reversible motion drive system Patent	
Circuit breaker utilizing magnetic latching relays Patent		[NASA-CASE-NPO-10173]	c15 N71-24696
[NASA-CASE-MSC-11277]	c09 N71-29008	RICHTER, I. A.	
RHO, J. H.		Dual digital video switcher	
Automated fluid chemical analyzer Patent		[NASA-CASE-KSC-10782-1]	c33 N75-30431
[NASA-CASE-XNP-09451]	c06 N71-26754	RIEBE, J. M.	
RHODES, D. B.		Landing arrangement for aerial vehicles Patent	
Optical scanner		[NASA-CASE-XLA-00142]	c02 N70-33286
[NASA-CASE-LAR-11711-1]	c74 N76-23985	Jet aircraft configuration Patent	
RHODES, L. L.		[NASA-CASE-XLA-00087]	c02 N70-33332
Latching mechanism Patent		Landing arrangement for aerial vehicle Patent	
[NASA-CASE-MSC-15474-1]	c15 N71-26162	[NASA-CASE-XLA-00806]	c02 N70-34858
RIAZ, M.		Landing arrangement for aerospace vehicle Patent	
Constant frequency output two stage induction machine systems Patent		[NASA-CASE-XLA-00805]	c31 N70-38010
[NASA-CASE-ERC-10065]	c09 N71-27364	Control system for rocket vehicles Patent	
RIBARICH, J. J.		[NASA-CASE-XLA-01163]	c21 N71-15582
Guidance and maneuver analyzer Patent		RIEBLING, R. W.	
[NASA-CASE-XNP-09572]	c14 N71-15621	Force-balanced, throttle valve Patent	
RICCITIELLO, S. R.		[NASA-CASE-NPO-10808]	c15 N71-27432
Modified polyurethane foams for fuel-fire Patent		Biopropellant injector	
[NASA-CASE-ARC-10098-1]	c06 N71-24739	[NASA-CASE-XNP-09461]	c28 N72-23809
Intumescent composition, foamed product prepared therewith, and process for making same		RILEY, J. F.	
[NASA-CASE-ARC-10304-1]	c18 N73-26572	Compact solar still Patent	
Flexible fire retardant polyisocyanate modified neoprene foam		[NASA-CASE-XMS-04533]	c15 N71-23086
[NASA-CASE-ARC-10190-1]	c06 N74-12814	RILEY, T. J.	
Intumescent composition, foamed product prepared therewith and process for making same		Nickel-base alloy Patent	
[NASA-CASE-ARC-10304-2]	c18 N74-27037	[NASA-CASE-XLE-00283]	c17 N70-36616
Polymeric foams from cross-linkable poly-N-arylenebenzimidazoles		RINARD, G. A.	
		Tumbler system to provide random motion	
		[NASA-CASE-XGS-02437]	c15 N69-21472
		RINDBER, W.	
		Voltage tunable Gunn-type microwave generator Patent	
		[NASA-CASE-XER-07894]	c09 N71-18721
		Transverse piezoresistance and pinch effect electromechanical transducers Patent	
		[NASA-CASE-ERC-10088]	c26 N71-25490

Pressure sensitive transducers Patent  
[NASA-CASE-ERC-10087] c14 N71-27334

Gunn-type solid state devices  
[NASA-CASE-XER-07895] c26 N72-25679

Electricity measurement devices employing liquid  
crystalline materials  
[NASA-CASE-ERC-10275] c26 N72-25680

Semiconductor transducer device  
[NASA-CASE-ERC-10087-2] c14 N72-31446

RINEHART, D.  
Space suit  
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[NASA-CASE-XMS-01991] c09 N71-21449

RIPPY, E. R.  
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[NASA-CASE-GSC-12018-1] c17 N76-13169

RITCHIE, D. G.  
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Patent  
[NASA-CASE-XNP-09770] c15 N71-20440

Material handling device Patent  
[NASA-CASE-XNP-09770-3] c11 N71-27036

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plural cells Patent  
[NASA-CASE-XNP-06506] c03 N71-11050

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[NASA-CASE-XLA-00481] c14 N70-36824

Check valve assembly for a probe Patent  
[NASA-CASE-XLA-00128] c15 N70-37925

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[NASA-CASE-ARC-10637-1] c35 N75-16783

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Patent  
[NASA-CASE-XGS-01654] c31 N71-24750

ROBELEN, D. B.  
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[NASA-CASE-LAR-11575-1] c02 N76-16014

ROBERTS, D. E.  
Apparatus for testing wiring harness by  
vibration generating means  
[NASA-CASE-MSC-15158-1] c14 N72-17325

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rotating objects Patent  
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[NASA-CASE-LAR-10031] c15 N72-22484

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the like  
[NASA-CASE-NPO-11307-1] c10 N73-30205

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[NASA-CASE-LAR-11027-1] c14 N74-18088

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[NASA-CASE-LAR-11206-1] c23 N74-30118

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[NASA-CASE-XPR-04104] c03 N70-42073

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[NASA-CASE-XNP-00217] c28 N70-38181

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[NASA-CASE-XMS-05909-1] c14 N69-27459

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laser Patent  
[NASA-CASE-XGS-01504] c16 N70-41578

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level of transmitted power is controlled by  
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ROBSON, P. H.  
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mobility  
[NASA-CASE-HQN-10069] c33 N75-27251

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[NASA-CASE-NPO-10768] c06 N71-27254

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perfluoro ethers  
[NASA-CASE-NPO-10768-2] c06 N72-27144

Highly fluorinated polyurethanes  
[NASA-CASE-NPO-10767-2] c06 N72-27151

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[NASA-CASE-XNP-00826] c03 N71-20895

RODNER, E. B.  
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[NASA-CASE-XNP-05868] c26 N75-27125

Brazing alloy composition  
[NASA-CASE-XNP-06053] c26 N75-27126

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[NASA-CASE-XNP-03878] c26 N75-27127

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[NASA-CASE-XLE-01609] c14 N71-10500

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Aeroflexible structures  
[NASA-CASE-XLA-06095] c01 N69-39981

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Propeller blade loading control Patent  
[NASA-CASE-XAC-00139] c02 N70-34856

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[NASA-CASE-XAC-00472] c15 N70-40180

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[NASA-CASE-XAC-00648] c14 N70-40400

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containing the same  
[NASA-CASE-MPS-13532] c18 N72-17532

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Pneumatic load compensating or controlling system  
[NASA-CASE-ARC-10907-1] c37 N75-32465

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[NASA-CASE-ARC-10905-1] c31 N75-33278

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[NASA-CASE-LAR-10910-1] c14 N74-13132

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Externally supported internally stabilized  
flexible duct joint  
[NASA-CASE-MPS-19194-1] c37 N76-14460

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[NASA-CASE-XLE-00321] c22 N70-34572

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[NASA-CASE-XPR-10856] c05 N71-11189



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[NASA-CASE-XPR-07658-1] c05 N71-26293

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[NASA-CASE-PRC-10022] c12 N71-26546

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[NASA-CASE-LAR-10204] c14 N71-27215

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ROOT, G. L.  
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[NASA-CASE-XNP-09702] c15 N71-17654

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[NASA-CASE-XNP-09698] c15 N71-18580

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[NASA-CASE-XGS-02171] c09 N69-24324

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[NASA-CASE-ERC-10019] c16 N71-15551

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[NASA-CASE-ERC-10017] c16 N71-15567

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Flow test device  
[NASA-CASE-XMS-04917] c14 N69-24257

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[NASA-CASE-LEW-11531] c15 N71-14932

Analytical test apparatus and method for determining oxide content of alkali metal Patent  
[NASA-CASE-XLB-01997] c06 N71-23527

ROSENGREN, L. G.  
Method and apparatus for background signal reduction in opto-acoustic absorption measurement  
[NASA-CASE-NPO-13683-1] c35 N75-29383

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[NASA-CASE-XLE-00586] c15 N71-15968

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[NASA-CASE-XMS-06056-1] c23 N71-24857

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ROSINSKI, W. K.  
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[NASA-CASE-MPS-20760] c14 N72-33377

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[NASA-CASE-ARC-10329-1] c05 N73-26072

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[NASA-CASE-ARC-10268-2] c05 N74-11900

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[NASA-CASE-RE-ARC-10329-2] c52 N76-30793

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[NASA-CASE-ARC-10464-1] c06 N74-12812

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[NASA-CASE-ARC-10714-1] c27 N76-15310

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[NASA-CASE-XHQ-04106] c14 N70-40240

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[NASA-CASE-XAC-05695] c25 N71-16073

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[NASA-CASE-XMP-05882] c35 N75-27329

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[NASA-CASE-NPO-13125-1] c33 N75-19519

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[NASA-CASE-XNP-04132] c15 N69-27502

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[NASA-CASE-LAR-10311-1] c16 N73-16536

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[NASA-CASE-ARC-10598-1] c25 N74-30156

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 [NASA-CASE-NPO-13342-1] c37 N76-16446  
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 pollution emission  
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 halide as a lasant  
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 having means for opening shutter when light  
 flux has reached a desired level  
 [NASA-CASE-ARC-10178-1] c09 N72-17152  
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 excited resonant chamber  
 [NASA-CASE-NPO-13263-1] c12 N75-24774  
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 [NASA-CASE-NPO-13566-1] c25 N76-17216  
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 Converter (ASDTIC)  
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 and for subjecting materials to electron  
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Magnifying scratch gage force transducer		SELCUK, H. K.	
[NASA-CASE-LAR-10496-1]	c14 N72-22437	A solar energy collection system	
SCOTT, C. W.		[NASA-CASE-NPO-13810-1]	c44 N76-26691
Inflatable transpiration cooled nozzle		SELLEN, J. E., JR.	
[NASA-CASE-MPS-20619]	c28 N72-11708	Method and apparatus for measuring potentials in plasmas Patent	
SCOTT, R. F.		[NASA-CASE-XLE-00821]	c25 N71-15650
Burrowing apparatus		Apparatus for field strength measurement of a space vehicle Patent	
[NASA-CASE-XMP-07169]	c15 N73-32362	[NASA-CASE-XLE-00820]	c14 N71-16014
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Solar cell including second surface mirrors Patent		[NASA-CASE-XLE-02038]	c09 N71-16086
[NASA-CASE-NPO-10109]	c03 N71-11049	SERAPINI, T. T.	
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Nonmagnetic thermal motor for a magnetometer		[NASA-CASE-LEW-11325-1]	c06 N73-27980
[NASA-CASE-XAR-03786]	c09 N69-21313	Fabrication of polyphenylquinoxaline composite articles by means of in situ polymerization of monomers	
SCOTT, W. L.		[NASA-CASE-LEW-11879-1]	c18 N74-20152
Tactile sensing means for prosthetic limbs		SEVART, F. D.	
[NASA-CASE-MPS-16570-1]	c05 N73-32013	Miniature hydraulic actuator	
SCOW, J.		[NASA-CASE-LAR-11522-1]	c15 N74-34881
Multiple circuit switch apparatus with improved pivot actuator structure Patent		SEWARD, H. H.	
[NASA-CASE-XAC-03777]	c10 N71-15909	Two color horizon sensor	
SCROOP, P. R.		[NASA-CASE-ERC-10174]	c14 N72-25409
Relief container		SEYFERT, H. B.	
[NASA-CASE-XMS-06761]	c05 N69-23192	Controlled glass bead peening Patent	
SCULLY, P. T.		[NASA-CASE-XLA-07390]	c15 N71-18616
Collapsible reflector Patent		SEYL, J. W.	
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SEA, R. G.		[NASA-CASE-XMS-05454-1]	c07 N71-12391
Junction range finder		SHADY, D. L.	
[NASA-CASE-KSC-10108]	c14 N73-25461	A device for tensioning test specimens within an hermetically sealed chamber	
SEATON, A. P.		[NASA-CASE-MPS-23281-1]	c35 N76-18413
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[NASA-CASE-NPO-10302]	c10 N71-26142	Solid propellant rocket motor nozzle	
Virtual wall slot circularly polarized planar array antenna		[NASA-CASE-NPO-11458]	c28 N72-23810
[NASA-CASE-NPO-10301]	c07 N72-11148	Solid propellant rocket motor	
Conical reflector antenna		[NASA-CASE-NPO-11559]	c28 N73-24784
[NASA-CASE-NPO-10303]	c07 N72-22127	Preparing oxidizer coated metal fuel particles	
SEATON, S. L.		[NASA-CASE-NPO-11975-1]	c27 N74-33209
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[NASA-CASE-XLA-01400]	c07 N70-41331	Active RC networks	
Means for communicating through a layer of ionized gases Patent		[NASA-CASE-ARC-10042-2]	c10 N72-11256
[NASA-CASE-XLA-01127]	c07 N70-41372	Multiloop RC active filter apparatus having low parameter sensitivity with low amplifier gain	
Method for measuring the characteristics of a gas Patent		[NASA-CASE-ARC-10192]	c09 N72-21245
[NASA-CASE-XLA-03375]	c16 N71-24074	SHAI, C. H.	
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SEAY, B. P., JR.		Alkali metal silicate protective coating Patent	
Burst synchronization detection system Patent		[NASA-CASE-XGS-04799]	c18 N71-24183
[NASA-CASE-XMS-05605-1]	c10 N71-19468	SHALTENS, R. K.	
SEBACHER, D. I.		Method and apparatus for sputtering utilizing an apertured electrode and a pulsed substrate bias	
Solar hydrogen generator		[NASA-CASE-LEW-10920-1]	c17 N73-24569
[NASA-CASE-LAR-11361-1]	c44 N76-19564	SHANKAR, N. K.	
SECKEL, E.		Ultrastable calibrated light source	
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[NASA-CASE-ARC-10456-1]	c05 N75-12930	SHANNON, R. L.	
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Rotary bead dropper and selector for testing micrometeorite detectors Patent		[NASA-CASE-MPS-22906-1]	c75 N76-24001
[NASA-CASE-XGS-03304]	c09 N71-22988	SHAPIRO, H.	
SEEGHILLER, H. L. B.		Omni-directional anisotropic molecular trap Patent	
Inertia diaphragm pressure transducer Patent		[NASA-CASE-XGS-00783]	c30 N71-17788
[NASA-CASE-XAC-02981]	c14 N71-21072	Trap for preventing diffusion pump backstreaming	
SEIDENBERG, B.		[NASA-CASE-GSC-10518-1]	c15 N72-22489
Method and apparatus for determining the contents of contained gas samples		SHATAZSKY, R.	
[NASA-CASE-GSC-10903-1]	c14 N73-12444	Tape guidance system and apparatus for the provision thereof Patent	
Low outgassing polydimethylsiloxane material and preparation thereof		[NASA-CASE-XMP-09453]	c08 N71-19420
[NASA-CASE-GSC-11358-1]	c06 N73-26100	SHATTUCK, R. D.	
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Method for leakage testing of tanks Patent		[NASA-CASE-XLE-04535]	c03 N71-23354
[NASA-CASE-XMP-02392]	c32 N71-24285	SHAW, C. S.	
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 [NASA-CASE-XNP-08124] c15 N71-27184  
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[NASA-CASE-LEW-10805-1] c15 N73-13465

Method of heat treating a formed powder product material  
[NASA-CASE-LEW-10805-3] c17 N74-10521

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[NASA-CASE-LEW-10805-2] c15 N74-13179

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[NASA-CASE-XLE-00342] c28 N70-37980

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[NASA-CASE-MPS-22671-1] c35 N75-21582

Method of and means for testing a tape record/playback system  
[NASA-CASE-MPS-22671-2] c35 N75-31418

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[NASA-CASE-MPS-20855-1] c31 N72-25853



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producing large area electrets  
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dicrotic notch  
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[NASA-CASE-GSC-11388-1] c07 N73-24187

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[NASA-CASE-ARC-10912-1] c44 N76-13599

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structures  
[NASA-CASE-LEW-12619-1] c24 N76-16181

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[NASA-CASE-XMS-02744] c33 N75-27249

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[NASA-CASE-NPO-12122-1] c24 N76-14203

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[NASA-CASE-XLE-00288] c15 N70-34247  
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oxy-bis-(perfluoroalkyleneoxyphthalic  
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[NASA-CASE-MPS-22356-1] c23 N75-30256  
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[NASA-CASE-XLE-02428] c17 N70-33288  
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and hafnium boride Patent  
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[NASA-CASE-NPO-13512-1] c33 N75-15876  
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among paralleled converters  
[NASA-CASE-NPO-13832-1] c33 N76-26393  
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failed one of parallel phase staggered  
converters  
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[NASA-CASE-MPS-23051-1]	c37 N76-13500	decontaminating the refrigerator		
WEZNER, F. S.		[NASA-CASE-NPO-10634]		c23 N72-25619
Collapsible reflector Patent		Refrigerated coaxial coupling		
[NASA-CASE-IMS-03454]	c09 N71-20658	[NASA-CASE-NPO-13504-1]		c33 N75-30430
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Method and apparatus for stable silicon dioxide		WILEY, F. L.	Temperature regulation circuit Patent	
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Wind tunnel microphone structure Patent		photo-dissociated molecular isotope into		
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Fluid containers and resealable septum therefor		[NASA-CASE-LEW-12465-1]		c72 N76-27967
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Grain refinement control in TIG arc welding		[NASA-CASE-XLA-01339]		c31 N71-15692
[NASA-CASE-MSC-19095-1]	c37 N75-19683	Variable dihedral shuttle orbiter		
WHIPPLE, D. W.		[NASA-CASE-LAR-10706-1]		c18 N75-16613
Microcircuit negative cutter		WILKINS, J. R.	Apparatus for microbiological sampling	
[NASA-CASE-XLA-09843]	c15 N72-27485	[NASA-CASE-LAR-11069-1]		c35 N75-12272
WHIPPLE, E. C., JR.		Automatic inoculating apparatus		
Method and apparatus for determining satellite		[NASA-CASE-LAR-11074-1]		c51 N75-13502
orientation utilizing spatial energy sources		Automatic microbial transfer device		
Patent		[NASA-CASE-LAR-11354-1]		c35 N75-27330
[NASA-CASE-XGS-00466]	c21 N70-34297	Measurement of gas production of microorganisms		
WHISENANT, J. T.		[NASA-CASE-LAR-11326-1]		c35 N75-33368
Inspection gage for boss Patent		Automated single-slide staining device		
[NASA-CASE-XNP-04966]	c14 N71-17658	[NASA-CASE-LAR-11649-1]		c51 N76-13725
WHITACRE, H. E.		WILL, H. A.	Process for fabricating SiC semiconductor devices	
Quick release hook tape Patent		[NASA-CASE-LEW-12094-1]		c76 N76-25049
[NASA-CASE-XMS-10660-1]	c15 N71-25975	WILL, E. W.	Attitude control and damping system for	
Scientific experiment flexible mount		spacecraft Patent		
[NASA-CASE-MSC-12372-1]	c31 N72-25842	[NASA-CASE-XLA-02551]		c21 N71-21708
WHITCOMB, B. T.		WILLIAMS, B. A.	Thermistor holder for skin temperature	
Airfoil shape for flight at subsonic speeds		measurements		
[NASA-CASE-LAR-10585-1]	c02 N76-22154	[NASA-CASE-ARC-10855-1]		c52 N75-33642
WHITE, A. R.		Liquid-cooled brassiere		
Scientific experiment flexible mount		[NASA-CASE-ARC-11007-1]		c52 N76-18782
[NASA-CASE-MSC-12372-1]	c31 N72-25842	WILLIAMS, D. D.	Apparatus for changing the orientation and	
WHITE, E. C.		velocity of a spinning body traversing a path		
Method of making pressurized panel Patent		Patent		
[NASA-CASE-XLA-08916]	c15 N71-29018	[NASA-CASE-HQN-00936]		c31 N71-29050
Lightweight, variable solidity knitted parachute		WILLIAMS, D. E.	Dual mode solid state power switch	
fabric		[NASA-CASE-MPS-22880-1]		c33 N76-31410
[NASA-CASE-LAR-10776-1]	c02 N74-10034	WILLIAMS, D. H.	Low temperature aluminum alloy Patent	
WHITE, P. A.		[NASA-CASE-XNP-02786]		c17 N71-20743
Coincidence apparatus for detecting particles		WILLIAMS, E. F.	Automatic liquid inventory collecting and	
[NASA-CASE-XLA-07813]	c14 N72-17328	dispensing unit		
WHITE, J. A.		[NASA-CASE-LAR-11071-1]		c35 N75-19611
Magnetically centered liquid column float Patent		WILLIAMS, J. G.	Light regulator	
[NASA-CASE-XAC-00030]	c14 N70-34820	[NASA-CASE-LAR-10836-1]		c26 N72-27784
WHITE, W. P.		Light intensity strain analysis		
Dual resonant cavity absorption cell Patent		[NASA-CASE-LAR-10765-1]		c32 N73-20740
[NASA-CASE-LAR-10305]	c14 N71-26137	WILLIAMS, J. R.	Holographic thin film analyzer	
Resonant waveguide stark cell		[NASA-CASE-MPS-20823-1]		c16 N73-30476
[NASA-CASE-LAR-11352-1]	c33 N75-26245	WILLIAMS, M. D.	Measurement of time differences between luminous	
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Apparatus for inserting and removing specimens		[NASA-CASE-XLA-01987]		c23 N71-23976
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[NASA-CASE-LAR-10841-1]	c15 N74-27900	backlash characteristic Patent		
WHITFIELD, C. E.		[NASA-CASE-XGS-04227]		c15 N71-21744
Selective plating of etched circuits without				
removing previous plating Patent				
[NASA-CASE-XGS-03120]	c15 N71-24047			
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[NASA-CASE-XNP-01187]	c15 N73-28516			
Superconductive magnetic-field-trapping device				
[NASA-CASE-XNP-01185]	c26 N73-28710			
Magnetic-flux pump				
[NASA-CASE-XNP-01188]	c15 N73-32361			
WHITTEN, D. E.				
Dual stage check valve				
[NASA-CASE-MSC-13587-1]	c15 N73-30459			
WHITTENBERGER, J. D.				
A zirconium modified nickel-copper alloy				
[NASA-CASE-LEW-12245-1]	c26 N75-26087			
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[NASA-CASE-GSC-11095-1]	c14 N72-10375			

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 [NASA-CASE-XMP-00663] c08 N71-18752

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 [NASA-CASE-MSC-19693-1] c26 N76-29401

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 [NASA-CASE-LAR-10539-1] c17 N73-12547  
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 [NASA-CASE-XMS-01445] c12 N71-16031  
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 [NASA-CASE-KSC-10729-1] c09 N73-32110  
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 [NASA-CASE-XNP-04180] c07 N69-39736  
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 [NASA-CASE-XLE-00720] c14 N70-40201  
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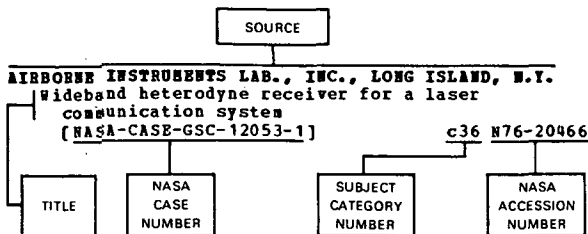
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## NASA PATENT ABSTRACTS BIBLIOGRAPHY

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## Section 2

## Typical Source Index Listing



Listings in this index are arranged alphabetically by source. The title of the document provides the user with a brief description of the subject matter. The NASA Case Number is the prime access point to patent documents. The subject category number indicates the category in Section 1 (Abstracts) in which the citation is located. The NASA accession number denotes the number by which the citation is identified within the subject category. The titles are arranged under each source in ascending accession number order.

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- BENDIX CORP., HUNTSVILLE, ALA.**  
Multi axes vibration fixtures  
[NASA-CASE-MFS-20242] c14 N73-19421
- BENDIX CORP., KENNEDY SPACE CENTER, FLA.**  
Color perception tester  
[NASA-CASE-KSC-10278] c05 N72-16015
- BENDIX CORP., TETERBORO, N.J.**  
Evacuation valve  
[NASA-CASE-LAR-10061-1] c15 N72-31483
- BENDIX RESEARCH LABS., SOUTHFIELD, MICH.**  
Image tube  
[NASA-CASE-GSC-11602-1] c09 N74-21850
- BOEING CO., COCOA BEACH, FLA.**  
Positive contact resistance soldering unit  
[NASA-CASE-KSC-10242] c15 N72-23497
- Variable resistance constant tension and lubrication device**  
[NASA-CASE-KSC-10723-1] c37 N75-13265
- BOEING CO., HUNTSVILLE, ALA.**  
Hydrogen fire blink detector  
[NASA-CASE-MFS-15063] c14 N72-25412
- Bore scope with variable angle scope**  
[NASA-CASE-MFS-15162] c14 N72-32452
- A guide for a typewriter**  
[NASA-CASE-MFS-15218-1] c15 N73-31438
- BOEING CO., PASADENA, TEX.**  
Medical subject monitoring systems  
[NASA-CASE-MSC-14180-1] c52 N76-14757
- BOEING CO., SEATTLE, WASH.**  
Method of inhibiting stress corrosion cracks in titanium alloys Patent  
[NASA-CASE-NPO-10271] c17 N71-16393
- Strain sensor for high temperatures**  
[NASA-CASE-XNP-09205] c14 N71-17657
- Forming tool for ribbon or wire**  
[NASA-CASE-XLA-05966] c15 N72-12408
- Solar cell assembly test method**  
[NASA-CASE-NPO-10401] c03 N72-20033
- Thermal compression bonding of interconnectors**  
[NASA-CASE-GSC-10303] c15 N72-22487
- Extrusion can**  
[NASA-CASE-NPO-10812] c15 N73-13464
- Radiation sensitive solid state switch**  
[NASA-CASE-NPO-10817-1] c08 N73-30135
- Miniature hydraulic actuator**  
[NASA-CASE-LAR-11522-1] c15 N74-34881
- Plasma cleaning device**  
[NASA-CASE-MFS-22906-1] c75 N76-24001
- BORG-WARNER CORP., CHICAGO, ILL.**  
Data transfer system Patent  
[NASA-CASE-NPO-12107] c08 N71-27255
- BROWN AND ROOT-NORTHROP, HOUSTON, TEX.**  
Anti-fog composition  
[NASA-CASE-MSC-13530-2] c23 N75-14834
- BROWN ENGINEERING CO., INC., HUNTSVILLE, ALA.**  
Air bearing Patent  
[NASA-CASE-XMP-01887] c15 N71-10617
- Collapsible nozzle extension for rocket engines Patent**  
[NASA-CASE-MFS-11497] c28 N71-16224
- Inspection gage for boss Patent**  
[NASA-CASE-XMP-04966] c14 N71-17658
- Method of recording a gas flow pattern Patent**  
[NASA-CASE-XMP-01779] c12 N71-20815
- Trigonometric vehicle guidance assembly which aligns the three perpendicular axes of two three-axes systems Patent**  
[NASA-CASE-XMP-00684] c21 N71-21688



Vapor liquid separator Patent  
[NASA-CASE-XMP-04042] c15 N71-23023

Thruster maintenance system Patent  
[NASA-CASE-MPS-20325] c28 N71-27095

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[NASA-CASE-MPS-20619] c28 N72-11708

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CALIFORNIA COMPUTER PRODUCTS, INC., ANAHEIM.  
Temperature regulation circuit Patent  
[NASA-CASE-XNP-02792] c14 N71-28958

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[NASA-CASE-XNP-02982] c31 N70-41855

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[NASA-CASE-XNP-08907] c23 N71-29123

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[NASA-CASE-LAR-10728-1] c14 N73-12445

Low gravity phase separator  
[NASA-CASE-MSC-14773-1] c31 N75-32262

Resistive anode image converter  
[NASA-CASE-HQN-10876-1] c33 N76-27473

CALIFORNIA UNIV., LOS ANGELES.  
Continuous plasma light source  
[NASA-CASE-XNP-04167-3] c25 N72-21693

Continuous plasma light source  
[NASA-CASE-XNP-04167-2] c25 N72-24753

CARBORUNDUM CO., NIAGARA FALLS, N.Y.  
Ceramic fiber insulating material and methods of producing same  
[NASA-CASE-MSC-14795-1] c27 N76-15314

CATHOLIC UNIV. OF AMERICA, WASHINGTON, D.C.  
Electromagnetic wave energy converter  
[NASA-CASE-GSC-11394-1] c09 N73-32109

CHANCE VOUGHT CORP., DALLAS, TEX.  
Coupling for linear shaped charge Patent  
[NASA-CASE-XLA-00189] c33 N70-36846

Spin forming tubular elbows Patent  
[NASA-CASE-XMP-01083] c15 N71-22723

Single action separation mechanism Patent  
[NASA-CASE-XLA-00188] c15 N71-22874

CHRYSLER CORP., DETROIT, MICH.  
Ceramic insulation for radiant heating environments and method of preparing the same Patent  
[NASA-CASE-MPS-14253] c33 N71-24858

Constant temperature heat sink for calorimeters Patent  
[NASA-CASE-XMP-04208] c33 N71-29051

CHRYSLER CORP., HUNTSVILLE, ALA.  
Apparatus for ejection of an instrument cover  
[NASA-CASE-XMP-04132] c15 N69-27502

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Power responsive overload sensing circuit Patent  
[NASA-CASE-GSC-10667-1] c10 N71-33129

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[NASA-CASE-GSC-10668-1] c07 N71-28430

Heat conductive resiliently compressible structure for space electronics package modules Patent  
[NASA-CASE-MSC-12389] c33 N71-29052

Infinite range electronics gain control circuit  
[NASA-CASE-GSC-10786-1] c10 N72-28241

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[NASA-CASE-LEW-12465-1] c72 N76-27967

COMPREHENSIVE DESIGNERS, INC., SHERMAN OAKS, CALIF.  
Vehicle for use in planetary exploration  
[NASA-CASE-NPO-11366] c11 N73-26238

COMPUTER CONTROL CO., INC., FRAMINGHAM, MASS.  
Test fixture for pellet-like electrical elements  
[NASA-CASE-XNP-06032] c09 N69-21926

Support structure for irradiated elements Patent  
[NASA-CASE-XNP-06031] c15 N71-15606

Counter Patent  
[NASA-CASE-XNP-06234] c10 N71-27137

CONRAC CORP., PASADENA, CALIF.  
Penetrating radiation system for detecting the amount of liquid in a tank Patent  
[NASA-CASE-MSC-12280] c27 N71-16348

COOPER UNION, HOUSTON, TEX.  
Pyrolysis system and process

[NASA-CASE-MSC-12669-1] c44 N76-16621

CORNELL UNIV., ITHACA, N.Y.  
Flux sensing device using a tubular core with toroidal gating coil and solenoidal output coil wound thereon Patent  
[NASA-CASE-XGS-01881] c09 N70-40123

CRAVE CO., BURBANK, CALIF.  
Hydraulic transformer Patent  
[NASA-CASE-MPS-20830] c15 N71-30028

CURTIS-WRIGHT CORP., WOOD-RIDGE, N.J.  
Gas turbine combustion apparatus Patent  
[NASA-CASE-XLE-10347-1] c28 N71-20330

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DELAWARE UNIV., NEWARK.  
High field CdS detector for infrared radiation  
[NASA-CASE-LAR-11027-1] c14 N74-18088

DENVER UNIV., COLO.  
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[NASA-CASE-HQN-10638-1] c15 N73-30460

DEPARTMENT OF TRANSPORTATION, CAMBRIDGE, MASS.  
Optical noise suppression device and method  
[NASA-CASE-MSC-12640-1] c74 N76-31998

DORNE AND MARGOLIN, INC., BOHEMIA, N.Y.  
Nose cone mounted heat resistant antenna Patent  
[NASA-CASE-XMS-04312] c07 N71-22984

DOUGLAS AIRCRAFT CO., INC., SANTA MONICA, CALIF.  
Recoverable single stage spacecraft booster Patent  
[NASA-CASE-XMP-01973] c31 N71-41588

Switching circuit employing regeneratively connected complementary transistors Patent  
[NASA-CASE-XNP-02654] c10 N70-42032

Split nut separation system Patent  
[NASA-CASE-XNP-06914] c15 N71-21489

Artificial gravity spin deployment system Patent  
[NASA-CASE-XNP-02595] c31 N71-21881

Portable superclean air column device Patent  
[NASA-CASE-XMP-03212] c15 N71-22721

Energy absorption device Patent  
[NASA-CASE-XNP-01848] c15 N71-28959

Collapsible pistons  
[NASA-CASE-MSC-13789-1] c11 N73-32152

DUKE UNIV., DURHAM, N.C.  
Regulated dc-to-dc converter for voltage step-up or step-down with input-output isolation  
[NASA-CASE-HQN-10792-1] c09 N74-11049

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EITEL-MCCULLOUGH, INC., SAN CARLOS, CALIF.  
Method of forming ceramic to metal seal Patent  
[NASA-CASE-XNP-01263-2] c15 N71-26312

ELECTRAC, INC., ANAHEIM, CALIF.  
Optimum predetection diversity receiving system Patent  
[NASA-CASE-XGS-00740] c07 N71-23098

ELECTRIC STORAGE BATTERY CO., RALEIGH, N.C.  
Electric battery and method for operating same Patent  
[NASA-CASE-XGS-01674] c03 N71-29129

ELECTRO-OPTICAL SYSTEMS, INC., PASADENA, CALIF.  
Focussing system for an ion source having apertured electrodes Patent  
[NASA-CASE-XNP-03332] c09 N71-10618

Electrolytically regenerative hydrogen-oxygen fuel cell Patent  
[NASA-CASE-XLE-04526] c03 N71-11052

Method of producing refractory bodies having controlled porosity Patent  
[NASA-CASE-LEW-10393-1] c17 N71-15468

Soil particles separator, collector and viewer Patent  
[NASA-CASE-XNP-09770] c15 N71-20440

Particle detection apparatus including a ballistic pendulum Patent  
[NASA-CASE-XMS-04201] c14 N71-22990

Polarity sensitive circuit Patent  
[NASA-CASE-XNP-00952] c10 N71-23271

Ion engine casing construction and method of making same Patent  
[NASA-CASE-XNP-06942] c28 N71-23293

Material handling device Patent  
[NASA-CASE-XNP-09770-3] c11 N71-27036

Screen particle separator  
[NASA-CASE-XNP-09770-2] c15 N72-22483

ELECTRONIC IMAGE SYSTEMS CORP., CAMBRIDGE, MASS.  
Drying apparatus for photographic sheet material  
[NASA-CASE-GSC-11074-1] c14 N73-28489

ESB, INC., RALEIGH, N.C.  
Storage battery comprising negative plates of a wedge shaped configuration  
[NASA-CASE-NPO-11806-1] c03 N74-19693

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Electric storage battery  
[NASA-CASE-NPO-11021] c03 N72-20032

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Method and means for providing an absolute power measurement capability Patent  
[NASA-CASE-ERC-11020] c14 N71-26774

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FAIRCHILD HILLER CORP., GERMANTOWN, MD.  
Two axis fluxgate magnetometer Patent  
[NASA-CASE-GSC-10441-1] c14 N71-27325

Space simulation and radiative property testing system and method Patent  
[NASA-CASE-MFS-20096] c14 N71-30026

Thermal control system for a spacecraft modular housing  
[NASA-CASE-GSC-11018-1] c31 N73-30829

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A method for attaching a fused-quartz mirror to a conductive metal substrate  
[NASA-CASE-MFS-23405-1] c37 N76-31526

FEDERAL-MOGUL CORP., LOS ALAMITOS, CALIF.  
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[NASA-CASE-INP-07659] c06 N71-22975

FLORIDA UNIV., GAINESVILLE.  
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[NASA-CASE-HQN-10841-1] c73 N75-22108

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Decomposition unit Patent  
[NASA-CASE-XMS-00583] c28 N70-38504

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Electrical conductivity cell and method for fabricating the same  
[NASA-CASE-ABC-10810-1] c33 N76-19339

FORD MOTOR CO., DEARBORN, MICH.  
Omnidirectional acceleration device Patent  
[NASA-CASE-HQN-10780] c14 N71-30265

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GARRETT CORP., LOS ANGELES, CALIF.  
Relief valve  
[NASA-CASE-XMS-05894-1] c15 N69-21924

Portable environmental control system Patent  
[NASA-CASE-XMS-09632-1] c05 N71-11203

Dual latching solenoid valve Patent  
[NASA-CASE-XMS-05890] c09 N71-23191

Water management system and an electrolytic cell therefor Patent  
[NASA-CASE-MSC-10960-1] c03 N71-24718

Low cycle fatigue testing machine  
[NASA-CASE-LAR-10270-1] c32 N72-25877

Process for separation of dissolved hydrogen from water by use of palladium and process for coating palladium with palladium black  
[NASA-CASE-MSC-13335-1] c06 N72-31140

Flexible joint for pressurizable garment  
[NASA-CASE-MSC-11072] c05 N74-32546

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[NASA-CASE-MSC-14757-1] c37 N76-13496

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[NASA-CASE-LAR-10180-1] c06 N71-13461

GENERAL DYNAMICS/ASTRONAUTICS, SAN DIEGO, CALIF.  
Determination of spot weld quality Patent  
[NASA-CASE-INP-02588] c15 N71-18613

Pressure transducer calibrator Patent  
[NASA-CASE-INP-01660] c14 N71-23036

Plating nickel on aluminum castings Patent  
[NASA-CASE-INP-04148] c17 N71-24830

GENERAL DYNAMICS/CONVAIR, SAN DIEGO, CALIF.  
Signal generator  
[NASA-CASE-INP-05612] c09 N69-21468

Separation nut Patent  
[NASA-CASE-XGS-01971] c15 N71-15922

Zero gravity separator Patent  
[NASA-CASE-XLE-00586] c15 N71-15968

Catalyst cartridge for carbon dioxide reduction unit  
[NASA-CASE-LAR-10551-1] c06 N74-12813

An improved heat exchanger  
[NASA-CASE-MFS-22991-1] c34 N75-10366

GENERAL DYNAMICS CORP., SAN DIEGO, CALIF.  
Light radiation direction indicator with a baffle of two parallel grids  
[NASA-CASE-INP-03930] c14 N69-24331

Method and apparatus for attaching physiological monitoring electrodes Patent  
[NASA-CASE-IPR-07658-1] c05 N71-26293

Driving lamps by induction  
[NASA-CASE-MFS-21214-1] c09 N73-30181

GENERAL ELECTRIC CO., PHILADELPHIA, PA.  
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[NASA-CASE-XHQ-03903] c15 N69-21922

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[NASA-CASE-XGS-03505] c03 N71-10608

Bismuth-lead coatings for gas bearings used in atmospheric environments and vacuum chambers Patent  
[NASA-CASE-XGS-02011] c15 N71-20739

Automatic control of liquid cooling garment by cutaneous and external auditory meatus temperatures  
[NASA-CASE-MSC-13917-1] c05 N72-15098

Method for measuring cutaneous sensory perception  
[NASA-CASE-MSC-13609-1] c05 N72-25122

Reaction tester  
[NASA-CASE-MSC-13604-1] c05 N73-13114

Air conditioned suit  
[NASA-CASE-LAR-10076-1] c05 N73-20137

Compton scatter attenuation gamma ray spectrometer  
[NASA-CASE-MFS-21441-1] c14 N73-30392

Inverter ratio failure detector  
[NASA-CASE-NPO-13160-1] c14 N74-18090

Electrophoretic sample insertion  
[NASA-CASE-MFS-21395-1] c14 N74-26948

Apparatus for conducting flow electrophoresis in the substantial absence of gravity  
[NASA-CASE-MFS-21394-1] c12 N74-27744

Fluid mass sensor  
[NASA-CASE-MSC-14653-1] c35 N75-13218

Multiparameter vision testing apparatus  
[NASA-CASE-MSC-13601-2] c54 N75-27759

Automatic bio waste sampling  
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[NASA-CASE-LEW-10219-1] c18 N71-28729

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[NASA-CASE-INP-01099] c14 N71-15969

Remote manipulator system  
[NASA-CASE-MFS-22022-1] c37 N76-15460

Automatic transponder  
[NASA-CASE-GSC-12075-1] c32 N76-19318

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Method of determining bond quality of power transistors attached to substrates  
[NASA-CASE-MFS-21931-1] c37 N75-26372

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Hermetic sealed vibration damper Patent  
[NASA-CASE-MSC-10959] c15 N71-26243

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[NASA-CASE-XMS-02383] c15 N71-15918

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[NASA-CASE-MFS-13929] c15 N71-27091

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Reversible current control apparatus Patent  
[NASA-CASE-XLA-09371] c10 N71-18724

GENERAL PRECISION, INC., SUNNYVALE, CALIF.  
Broadband video process with very high input impedance  
[NASA-CASE-NPO-10199] c09 N72-17156

GENERAL PRECISION SYSTEMS, INC., LITTLE FALLS, N.J.  
Fluidic-thermochromic display device Patent  
[NASA-CASE-ERC-10031] c12 N71-18603

GENERAL TECHNOLOGIES CORP., RESTON, VA.  
Improved method of making reinforced composite structures  
[NASA-CASE-LEW-12619-1] c24 N76-16181

GEOPHYSICS CORP. OF AMERICA, BEDFORD, MASS.  
Inflation system for balloon type satellites Patent  
[NASA-CASE-XGS-03351] c31 N71-16081

**GEOPHYSICS CORP. OF AMERICA, BOSTON, MASS.**  
 Ionospheric battery Patent  
 [NASA-CASE-XGS-01593] c03 N70-35408

**GEORGE WASHINGTON UNIV., WASHINGTON, D.C.**  
 Bacteria detection instrument and method  
 [NASA-CASE-GSC-11533-1] c14 N73-13435  
 Arterial pulse wave pressure transducer  
 [NASA-CASE-GSC-11531-1] c05 N74-27566

**GIANNINI SCIENTIFIC CORP., SANTA ANA, CALIF.**  
 Electric arc light source having undercut recessed anode  
 [NASA-CASE-ARC-10266-1] c33 N75-29318  
 Combination automatic-starting electrical plasma torch and gas shutoff valve  
 [NASA-CASE-XLE-10717] c37 N75-29426

**GLOBE-UNION, INC., MILWAUKEE, WIS.**  
 Method of coating solar cell with borosilicate glass and resultant product  
 [NASA-CASE-GSC-11514-1] c03 N72-24037

**GOODYEAR AEROSPACE CORP., AKRON, OHIO.**  
 Foldable solar concentrator Patent  
 [NASA-CASE-XLA-04622] c03 N70-41580  
 Method of making a filament-wound container Patent  
 [NASA-CASE-XLE-03803-2] c15 N71-17651  
 Filament wound container Patent  
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 Panelized high performance multilayer insulation Patent  
 [NASA-CASE-MFS-14023] c33 N71-25351  
 Thermally activated foaming compositions Patent  
 [NASA-CASE-LAR-10373-1] c18 N71-26155  
 Compression test assembly  
 [NASA-CASE-LAR-10440-1] c14 N73-32323  
 Deployable flexible tunnel  
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**GRACE (W. R.) AND CO., CLARKSVILLE, MD.**  
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 [NASA-CASE-MSC-12168-1] c09 N71-18600  
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 [NASA-CASE-XMS-10984-1] c10 N71-19417

**GULF GENERAL ATOMIC, SAN DIEGO, CALIF.**  
 Waveform simulator Patent  
 [NASA-CASE-NPO-10251] c10 N71-27365

**GULTON INDUSTRIES, INC., ALBUQUERQUE, N.MEX.**  
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**HAMILTON STANDARD, WINDSOR LOCKS, CONN.**  
 Venting device for pressurized space suit helmet Patent  
 [NASA-CASE-XMS-09652-1] c05 N71-26333  
 Regenerable device for scrubbing breathable air of CO<sub>2</sub> and moisture without special heat exchanger equipment  
 [NASA-CASE-MSC-14770-1] c54 N76-26868  
 Regenerable device for scrubbing breathable air of CO<sub>2</sub> and moisture without special heat exchanger equipment  
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**HAMILTON STANDARD DIV., UNITED AIRCRAFT CORP., WINDSOR LOCKS, CONN.**  
 Condensate removal device for heat exchanger  
 [NASA-CASE-MSC-14143-1] c77 N75-20139

**HARVARD MEDICAL SCHOOL, BOSTON, MASS.**  
 Method and system for in vivo measurement of bone tissue  
 [NASA-CASE-MSC-14276-1] c54 N75-21948

**HAYES INTERNATIONAL CORP., BIRMINGHAM, ALA.**  
 Space craft soft landing system Patent  
 [NASA-CASE-XMP-02108] c31 N70-36845  
 Device for preventing high voltage arcing in electron beam welding Patent  
 [NASA-CASE-XMP-08522] c15 N71-19486

**HAYES INTERNATIONAL CORP., HUNTSVILLE, ALA.**  
 Method and apparatus for cryogenic wire stripping Patent  
 [NASA-CASE-MFS-10340] c15 N71-17628  
 Self-balancing strain gage transducer Patent  
 [NASA-CASE-MFS-12827] c14 N71-17656  
 Automatic closed circuit television arc guidance control Patent  
 [NASA-CASE-MFS-13046] c07 N71-19433

**HAZLETON LABS., FALLS CHURCH, VA.**  
 Use of the enzyme hexokinase for the reduction of inherent light levels  
 [NASA-CASE-XGS-05533] c04 N69-27487  
 Light detection instrument Patent  
 [NASA-CASE-XGS-05534] c23 N71-16355  
 Lyophilized reaction mixtures Patent  
 [NASA-CASE-XGS-05532] c06 N71-17705  
 Firefly pump-metering system  
 [NASA-CASE-GSC-10218-1] c15 N72-21465

**HERCULES, INC., WILMINGTON, DEL.**  
 Method of repairing discontinuity in fiberglass structures  
 [NASA-CASE-LAR-10416-1] c18 N74-30001

**HOPPMAN ELECTRONICS CORP., EL MONTE, CALIF.**  
 Method for producing a solar cell having an integral protective covering  
 [NASA-CASE-XGS-04531] c03 N69-24267

**HONEYWELL, INC., HOPKINS, MINN.**  
 Frequency control network for a current feedback oscillator Patent  
 [NASA-CASE-GSC-10041-1] c10 N71-19418

**HONEYWELL, INC., MINNEAPOLIS, MINN.**  
 Bus voltage compensation circuit for controlling direct current motor  
 [NASA-CASE-XMS-04215-1] c09 N69-39987  
 Apparatus for overcurrent protection of a push-pull amplifier Patent  
 [NASA-CASE-MSC-12033-1] c09 N71-13531  
 Static inverter Patent  
 [NASA-CASE-XGS-05289] c09 N71-19470  
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 Clamping assembly for inertial components Patent  
 [NASA-CASE-XMS-02184] c15 N71-20813  
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 [NASA-CASE-XNP-05429] c26 N71-21824  
 Controllers Patent  
 [NASA-CASE-XMS-07487] c15 N71-23255  
 Convoluting device for forming convolutions and the like Patent  
 [NASA-CASE-XNP-05297] c15 N71-23811  
 Failure sensing and protection circuit for converter networks Patent  
 [NASA-CASE-GSC-10114-1] c10 N71-27366  
 Voice operated controller Patent  
 [NASA-CASE-XLA-04063] c31 N71-33160  
 Load current sensor for a series pulse width modulated power supply  
 [NASA-CASE-GSC-10656-1] c09 N72-25249  
 Radiant source tracker independent of nonconstant irradiance  
 [NASA-CASE-NPO-11686] c14 N73-25462  
 Optical instruments  
 [NASA-CASE-MSC-14096-1] c14 N74-15095  
 Manufacture of glass-to-metal seals wherein the cleanliness of the process is enhanced and the leak resistance of the resulting seal is maximized  
 [NASA-CASE-LAR-11563-1] c37 N76-21558

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 Analysis of volatile organic compounds  
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**HOWARD UNIV., WASHINGTON, D.C.**  
 A cervix-to-rectum measuring device in a radiation applicator for use in the treatment of cervical cancer  
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- Multilayer porous ionizer Patent  
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- Construction and method of arranging a plurality of ion engines to form a cluster Patent  
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- Triaxial antenna Patent  
[NASA-CASE-XGS-02290] c07 N71-28809
- Variable frequency oscillator with temperature compensation Patent  
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- High efficiency ionizer assembly Patent  
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- Apparatus for changing the orientation and velocity of a spinning body traversing a path Patent  
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- Fabrication of controlled-porosity metals Patent  
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- Ion thruster  
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- Refractory porcelain enamel passive control coating for high temperature alloys  
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- HUGHES AIRCRAFT CO., LOS ANGELES, CALIF.**
- Power control circuit  
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- Double optic system for ion engine Patent  
[NASA-CASE-XNP-02839] c28 N70-41922
- Sample collecting impact bit Patent  
[NASA-CASE-XNP-01412] c15 N70-42034
- Bootstrap unloader Patent  
[NASA-CASE-XNP-09768] c09 N71-12516
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- High voltage transistor circuit Patent  
[NASA-CASE-XNP-06937] c09 N71-19516
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- System for monitoring the presence of neutrals in a stream of ions Patent  
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- Broadband frequency discriminator Patent  
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- Flexible, repairable, pottable material for electrical connectors Patent  
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- Narrow bandwidth video Patent  
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- Conical reflector antenna  
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- Injector for use in high voltage isolators for liquid feed lines  
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- Thiophenyl ether disiloxanes and trisiloxanes useful as lubricant fluids  
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- Method and apparatus for optically monitoring the angular position of a rotating mirror  
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- Opto-mechanical subsystem with temperature compensation through isothermal design  
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- Thrust dynamometer Patent  
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- IIT RESEARCH INST., CHICAGO, ILL.**
- Spectral method for monitoring atmospheric contamination of inert-gas welding shields Patent  
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- Stabilized zinc oxide coating compositions Patent  
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- INSTITUTE FOR RESEARCH, INC., HOUSTON, TEX.**
- Method of making a perspiration resistant biopotential electrode  
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- INSTITUTE OF RESEARCH AND INSTRUMENTATION, HOUSTON, TEX.**
- Pressed disc type sensing electrodes with ion-screening means Patent  
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- INTERNATIONAL BUSINESS MACHINES CORP., NEW YORK.**
- Electrical connector pin with wiping action  
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- Tool attachment for spreading loose elements away from work Patent  
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- Silicide coatings for refractory metals Patent  
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- INTERNATIONAL LATEX CORP., DOVER, DEL.**
- Space suit  
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- ITT CORP., NUTLEY, N.J.**
- Time division radio relay synchronizing system using different sync code words for in sync and out of sync conditions Patent  
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- Tracking receiver Patent  
[NASA-CASE-XGS-08679] c10 N71-21473
- Satellite interlace synchronization system  
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- JET PROPULSION LAB., CALIF. INST. OF TECH., PASADENA.**
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[NASA-CASE-XNP-00646] c14 N70-35666  
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[NASA-CASE-XNP-00249] c28 N70-38249  
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[NASA-CASE-XNP-00637] c14 N70-40273  
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[NASA-CASE-XNP-01962] c32 N70-41370  
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[NASA-CASE-XNP-01501] c21 N70-41930  
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[NASA-CASE-XNP-05082] c15 N70-41960  
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[NASA-CASE-XNP-00911] c08 N70-41961  
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[NASA-CASE-XNP-03128] c10 N70-41991  
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[NASA-CASE-XNP-01383] c09 N71-10659  
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[NASA-CASE-XNP-09832]	c30 N71-23723	Cascaded complementary pair broadband transistor amplifiers Patent	
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[NASA-CASE-XNP-06510]	c14 N71-23797	Digital memory in which the driving of each word location is controlled by a switch core Patent	
High speed phase detector Patent		[NASA-CASE-XNP-01466]	c10 N71-26434
[NASA-CASE-XNP-01306-2]	c09 N71-24596	Conically shaped cavity radiometer with a dual purpose cone winding Patent	
Apparatus for testing polymeric materials Patent		[NASA-CASE-XNP-09701]	c14 N71-26475
[NASA-CASE-XNP-09699]	c06 N71-24607	Analog signal integration and reconstruction system Patent	
Digital synchronizer Patent		[NASA-CASE-NPO-10344]	c10 N71-26544
[NASA-CASE-NPO-10851]	c07 N71-24613	Rapid sync acquisition system Patent	
Signal processing apparatus for multiplex transmission Patent		[NASA-CASE-NPO-10214]	c10 N71-26577
[NASA-CASE-NPO-10388]	c07 N71-24622	Cryogenic cooling system Patent	
Self-testing and repairing computer Patent		[NASA-CASE-NPO-10467]	c23 N71-26654
[NASA-CASE-NPO-10567]	c08 N71-24633	Vacuum evaporator with electromagnetic ion steering Patent	
Serial digital decoder Patent		[NASA-CASE-NPO-10331]	c09 N71-26701
[NASA-CASE-NPO-10150]	c08 N71-24650	Automated fluid chemical analyzer Patent	
Detenting servomotor Patent		[NASA-CASE-NPO-09451]	c06 N71-26754
[NASA-CASE-XNP-06936]	c15 N71-24695	Material handling device Patent	
Reversible motion drive system Patent		[NASA-CASE-XNP-09770-3]	c11 N71-27036
[NASA-CASE-NPO-10173]	c15 N71-24696	Pressure seal Patent	
Decoder system Patent		[NASA-CASE-NPO-10796]	c15 N71-27068
[NASA-CASE-NPO-10118]	c07 N71-24741	Multiducted electromagnetic pump Patent	
Television signal processing system Patent		[NASA-CASE-NPO-10755]	c15 N71-27084
[NASA-CASE-NPO-10140]	c07 N71-24742	Peak acceleration limiter for vibrational tester Patent	
Switching circuit Patent		[NASA-CASE-NPO-10556]	c14 N71-27185
[NASA-CASE-XNP-06505]	c10 N71-24799	Thin film capacitive bolometer and temperature sensor Patent	
Magnetic power switch Patent		[NASA-CASE-NPO-10607]	c09 N71-27232
[NASA-CASE-NPO-10242]	c09 N71-24803	Black body cavity radiometer Patent	
Remodulator filter Patent		[NASA-CASE-NPO-10810]	c14 N71-27323
[NASA-CASE-NPO-10198]	c09 N71-24806	Video signal enhancement system with dynamic range compression and modulation index expansion Patent	
Broadband microwave waveguide window Patent		[NASA-CASE-NPO-10343]	c07 N71-27341
[NASA-CASE-XNP-08880]	c09 N71-24808	Force-balanced, throttle valve Patent	
Cavity radiometer Patent		[NASA-CASE-NPO-10808]	c15 N71-27432
[NASA-CASE-XNP-08961]	c14 N71-24809	Cavity emitter for thermionic converter Patent	
High-gain, broadband traveling wave maser Patent		[NASA-CASE-NPO-10412]	c09 N71-28421
[NASA-CASE-NPO-10548]	c16 N71-24831	Frictionless universal joint Patent	
Fluid containers and resealable septum therefor Patent		[NASA-CASE-NPO-10646]	c15 N71-28467
[NASA-CASE-NPO-10123]	c15 N71-24835	Epoxy-aziridine polymer product Patent	
Temperature telemetric transmitter Patent		[NASA-CASE-NPO-10701]	c06 N71-28620
[NASA-CASE-NPO-10649]	c07 N71-24840	Fluid impervious barrier including liquid metal alloy and method of making same Patent	
Tuning arrangement for an electron discharge device or the like Patent		[NASA-CASE-XNP-08881]	c17 N71-28747
[NASA-CASE-XNP-09771]	c09 N71-24841	Wind tunnel microphone structure Patent	
Noise limiter Patent		[NASA-CASE-XNP-00250]	c11 N71-28779
[NASA-CASE-NPO-10169]	c10 N71-24844	Trialkyl-dihalotantalum and niobium compounds Patent	
Noninterruptable digital counting system Patent		[NASA-CASE-XNP-04023]	c06 N71-28808
[NASA-CASE-XNP-09759]	c08 N71-24891	Digital memory sense amplifying means Patent	
Drive circuit for minimizing power consumption in inductive load Patent		[NASA-CASE-XNP-01012]	c08 N71-28925
[NASA-CASE-NPO-10716]	c09 N71-24892	Digital filter for reducing sampling jitter in digital control systems Patent	
Space simulator Patent		[NASA-CASE-NPO-11088]	c08 N71-29034
[NASA-CASE-NPO-10141]	c11 N71-24964	Method and apparatus for aligning a laser beam projector Patent	
Process for reducing secondary electron emission Patent		[NASA-CASE-NPO-11087]	c23 N71-29125
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[NASA-CASE-NPO-10595]	c10 N71-25917		
Novel polycarboxylic prepolymeric materials and polymers thereof Patent			
[NASA-CASE-NPO-10596]	c06 N71-25929		
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Rubber composition for use with hydrazine Patent Application	[NASA-CASE-NPO-11433]	c18 N71-31140	Positioning mechanism	[NASA-CASE-NPO-10679]	c15 N72-21462
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Audio system with means for reducing noise effects  
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Rotary vane attenuator wherein rotor has orthogonally disposed resistive and dielectric cards  
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- Cooperative multiaxis sensor for teleoperation of article manipulating apparatus  
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- Heat sterilizable patient ventilator  
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[NASA-CASE-NPO-13687-1] c35 N76-14433
- Forward-scatter polarimeter for determining the gaseous depolarization factor in the presence of polluting polydispersed particles  
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- Thermostatically controlled non-tracking type solar energy concentrator  
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- Multi-computer multiple data path hardware exchange system  
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- Cermet composition and method of fabrication  
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- Dichroic plate  
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- Control for nuclear thermionic power source  
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- A machine for use in monitoring fatigue life for a plurality of elastomeric specimens  
[NASA-CASE-NPO-13731-1] c39 N76-17427
- Automated system for identifying traces of organic chemical compounds in aqueous solutions  
[NASA-CASE-NPO-13063-1] c25 N76-18245
- Analog to digital converter  
[NASA-CASE-NPO-13385-1] c33 N76-18345
- Sampler of gas borne particles  
[NASA-CASE-NPO-13396-1] c35 N76-18401
- Stark-effect modulation of CO<sub>2</sub> laser with NH<sub>2</sub>D  
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- Diffused waveguiding capillary tube with distributed feedback for a gas laser  
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[NASA-CASE-NPO-13237-1] c44 N76-18641
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[NASA-CASE-NPO-13464-1] c44 N76-18642
- Zinc-halide battery with molten electrolyte  
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- Solar photolysis of water  
[NASA-CASE-NPO-13675-1] c44 N76-18680
- Priority interrupt system  
[NASA-CASE-NPO-13067-1] c60 N76-18800
- Multiple rate digital command detection system with range clean-up capability  
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- Acoustic energy shaping  
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- Method and apparatus for measurement of trap density and energy distribution in dielectric films  
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- Indicator providing continuous indication of the presence of a specific pollutant in air  
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- Wind sensor  
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[NASA-CASE-NPO-13531-1] c36 N76-24553
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[NASA-CASE-NPO-13620-1] c23 N76-26278
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[NASA-CASE-NPO-13764-1] c24 N76-26281
- Oil and fat absorbing polymers  
[NASA-CASE-NPO-11609-A] c27 N76-26345
- Method and apparatus for automatic load sharing among paralleled converters  
[NASA-CASE-NPO-13832-1] c33 N76-26393
- Direct reading inductance meter  
[NASA-CASE-NPO-13792-1] c35 N76-26447
- Photoelectron spectrometer with means for stabilizing sample surface potential  
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- Three-dimensional tracking solar energy concentrator and method for making same  
[NASA-CASE-NPO-13736-1] c44 N76-26689
- Portable, linear-focused solar thermal energy collecting system  
[NASA-CASE-NPO-13734-1] c44 N76-26690
- A solar energy collection system  
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- RF beam center location method and apparatus for power transmission system  
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- Method and apparatus for generating coherent radiation in the ultra-violet region and above by use of distributed feedback  
[NASA-CASE-NPO-13346-1] c36 N76-29575
- Stirling cycle engine and refrigeration systems  
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- Hydrogen rich gas generator  
[NASA-CASE-NPO-13342-2] c44 N76-29700
- Solar-powered pump  
[NASA-CASE-NPO-13567-1] c44 N76-29701
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[NASA-CASE-NPO-13464-2] c44 N76-29704
- Myocardium wall thickness transducer and measuring method  
[NASA-CASE-NPO-13644-1] c52 N76-29895
- Catheter tip force transducer for cardiovascular research  
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- Real time analysis of voiced sounds  
[NASA-CASE-NPO-13465-1] c32 N76-31372
- Ultra stable frequency distribution system  
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[NASA-CASE-NPO-13604-1] c35 N76-31490
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- Independent gain and bandwidth control of a traveling wave maser  
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- Method of making hollow elastomeric bodies  
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- Solar cell grid patterns  
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- Furlable antenna  
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[NASA-CASE-HQN-00937] c07 N71-28979

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[NASA-CASE-XNP-04183] c09 N69-24329  
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[NASA-CASE-XNP-09453] c08 N71-19420  
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[NASA-CASE-XMS-06056-1] c23 N71-24857

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[NASA-CASE-ERC-10041] c08 N71-29138  
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[NASA-CASE-GSC-11487-1] c14 N73-30393

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[NASA-CASE-ARC-10849-1] c17 N76-29347

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[NASA-CASE-MPS-11279] c16 N71-20400

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[NASA-CASE-XLA-03538] c15 N71-24897  
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[NASA-CASE-XGS-01052] c14 N71-15992  
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[NASA-CASE-MSC-14331-1] c27 N76-24405  
Flame retardant elastomeric compositions  
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[NASA-CASE-XNP-02507] c31 N71-17679

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[NASA-CASE-XLA-02865] c28 N71-15563  
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[NASA-CASE-MSC-14053-1] c08 N74-12888

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[NASA-CASE-MSC-14065-1] c07 N74-26654  
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[NASA-CASE-MSC-14066-1] c10 N74-27705

Method and apparatus for decoding compatible convolutional codes  
[NASA-CASE-MSC-14070-1] c07 N74-32598

Pulse stretcher for narrow pulses  
[NASA-CASE-MSC-14130-1] c10 N74-32711

Peak holding circuit for extremely narrow pulses  
[NASA-CASE-MSC-14129-1] c33 N75-18479

Random pulse generator  
[NASA-CASE-MSC-14131-1] c33 N75-19515

Digital transmitter for data bus communications system  
[NASA-CASE-MSC-14558-1] c32 N75-21486

Method and system for producing chroma signals  
[NASA-CASE-MSC-14683-1] c74 N75-33835

Low distortion receiver for bi-level baseband PCM waveforms  
[NASA-CASE-MSC-14557-1] c32 N76-16249

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Wind measurement system  
[NASA-CASE-MPS-23362-1] c47 N76-13701

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Device for handling heavy loads  
[NASA-CASE-XNP-04969] c11 N69-27466  
Transient heat transfer gauge Patent  
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[NASA-CASE-GSC-10188-1] c23 N71-24725

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[NASA-CASE-MSC-14182-1] c27 N76-14264

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[NASA-CASE-MSC-14180-1] c52 N76-14757

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[NASA-CASE-MSC-14270-1] c27 N76-22377

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[NASA-CASE-ARC-10932-1] c74 N76-22993

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[NASA-CASE-MSC-14831-1] c25 N76-23387

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 [NASA-CASE-MSC-12139-1] c28 N71-14058  
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 [NASA-CASE-XNP-04389] c28 N71-20942  
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 [NASA-CASE-MSC-13512-1] c15 N72-22485  
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 [NASA-CASE-LAR-11181-1] c39 N75-31479  
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 [NASA-CASE-MSC-14273-1] c34 N75-33342  
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 [NASA-CASE-LAR-10970-1] c33 N76-14372  
 Method and apparatus for fluffing, separating, and cleaning fibers  
 [NASA-CASE-LAR-11224-1] c37 N76-18456  
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 [NASA-CASE-XMS-03537] c15 N69-21471  
 Hydraulic drive mechanism Patent  
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 [NASA-CASE-XMS-00945] c09 N71-10798  
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 [NASA-CASE-XMS-01108] c15 N69-24322  
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 [NASA-CASE-XMS-05909-1] c14 N69-27459

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 [NASA-CASE-XMS-01905] c12 N71-21089  
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 [NASA-CASE-XMS-00913] c10 N71-23543  
 Multiple circuit protector device  
 [NASA-CASE-XMS-02744] c33 N75-27249  
 Apparatus for welding sheet material  
 [NASA-CASE-XMS-01330] c37 N75-27376

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Heat transfer device  
 [NASA-CASE-MPS-22938-1] c34 N76-18374  
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 [NASA-CASE-NPO-10863] c06 N70-11251

Method of polymerizing perfluorobutadiene Patent application  
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Variable direction force coupler  
 [NASA-CASE-MPS-20317] c15 N73-13463  
 Potable water dispenser  
 [NASA-CASE-MPS-21115-1] c05 N74-12779  
 Metering gun for dispensing precisely measured charges of fluid  
 [NASA-CASE-MPS-21163-1] c05 N74-17853

Airlock  
 [NASA-CASE-MPS-20922-1] c15 N74-22136

Device for monitoring a change in mass in varying gravimetric environments  
 [NASA-CASE-MPS-21556-1] c14 N74-26945

Thrust-isolating mounting  
 [NASA-CASE-MPS-21680-1] c32 N74-27397

Device for measuring tensile forces  
 [NASA-CASE-MPS-21728-1] c14 N74-27865

Flame detector operable in presence of proton radiation  
 [NASA-CASE-MPS-21577-1] c03 N74-29410

Phase-locked servo system  
 [NASA-CASE-MPS-22073-1] c33 N75-13139

Vacuum leak detector  
 [NASA-CASE-LAR-11237-1] c35 N75-19612

Meter for use in detecting tension in straps having predetermined elastic characteristics  
 [NASA-CASE-MPS-22189-1] c35 N75-19615

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 [NASA-CASE-MPS-21606-1] c37 N75-19685

Device for use in loading tension members  
 [NASA-CASE-MPS-21488-1] c14 N75-24794

**MCDONNELL-DOUGLAS CORP., NEWPORT BEACH, CALIF.**

Method of making membranes  
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 [NASA-CASE-NPO-10311] c31 N71-15643

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 [NASA-CASE-NPO-10862] c06 N72-22107

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 [NASA-CASE-NPO-10863-2] c06 N72-25152

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 [NASA-CASE-NPO-12122-1] c24 N76-14203

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 [NASA-CASE-NPO-12119-1] c52 N75-15270

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[NASA-CASE-XLA-00755]	c01	N71-13410	[NASA-CASE-XLA-00892]	c33	N71-17897
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[NASA-CASE-XLA-02850]	c09 N71-20447	[NASA-CASE-XLA-01987]	c23 N71-23976
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[NASA-CASE-XLA-01808]	c15 N71-20740	[NASA-CASE-XLA-04295]	c16 N71-24170
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[NASA-CASE-XLA-00934]	c14 N71-22765	[NASA-CASE-XLA-02619]	c10 N71-26334
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[NASA-CASE-LAR-10586-1]	c14	N74-15089	
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[NASA-CASE-LAR-11155-1]	c14	N74-15091	
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[NASA-CASE-LAR-10862-1]	c14	N74-15092	
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[NASA-CASE-LAR-10105-1]	c33	N74-15652	
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[NASA-CASE-LAR-10595-1]	c15	N74-16135	
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[NASA-CASE-LAR-10812-1]	c11	N74-17955	
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[NASA-CASE-LAR-11027-1]	c14	N74-18088	
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[NASA-CASE-LAR-10318-1]	c14	N74-18089	
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[NASA-CASE-LAR-10634-1]	c15	N74-18123	
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[NASA-CASE-LAR-10489-1]	c15	N74-18124	
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[NASA-CASE-LAR-10426-1]	c32	N74-19528	
Aromatic polyimide preparation			
[NASA-CASE-LAR-11372-1]	c06	N74-19772	
Reefing system			
[NASA-CASE-LAR-10129-2]	c15	N74-20063	
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[NASA-CASE-ERC-10180-1]	c08	N74-20836	
Orbital and entry tracking accessory for globes			
[NASA-CASE-LAR-10626-1]	c14	N74-21015	
Digital controller for a Baua folding machine			
[NASA-CASE-LAR-10688-1]	c15	N74-21056	
Totally confined explosive welding			
[NASA-CASE-LAR-10941-1]	c15	N74-21057	
Method of fabricating an object with a thin wall having a precisely shaped slit			
[NASA-CASE-LAR-10409-1]	c15	N74-21059	
Deployable pressurized cell structure for a micrometeoroid detector			
[NASA-CASE-LAR-10295-1]	c15	N74-21062	
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[NASA-CASE-LAR-10168-1]	c09	N74-22865	
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[NASA-CASE-LAR-10900-1]	c15	N74-23064	
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[NASA-CASE-LAR-10089-1]	c15	N74-23066	
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[NASA-CASE-LAR-11645-1]	c02	N74-26456	
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[NASA-CASE-LAR-10670-2]	c31	N74-27360	
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[NASA-CASE-LAR-10841-1]	c15	N74-27900	
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[NASA-CASE-LAR-10450-1]	c15	N74-27905	
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[NASA-CASE-LAR-10416-1]	c18	N74-30001	
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[NASA-CASE-LAR-11206-1]	c23	N74-30118	
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[NASA-CASE-LAR-10550-1]	c11	N74-30597	
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[NASA-CASE-LAR-10194-1]	c12	N74-30608	
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[NASA-CASE-LAR-10642-1]	c28	N74-31270	
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[NASA-CASE-LAR-10806-1]	c14	N74-32877	
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[NASA-CASE-LAR-10489-2]	c15	N74-32920	
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[NASA-CASE-LAR-11428-1]	c14	N74-34857	
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[NASA-CASE-LAR-11522-1]	c15	N74-34881	
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[NASA-CASE-LAR-11213-1]	c35	N75-15014	
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[NASA-CASE-LAR-10276-1]	c09	N75-15662	
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[NASA-CASE-LAR-10706-1]	c18	N75-16613	
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[NASA-CASE-LAR-11207-1]	c35	N75-19613	
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[NASA-CASE-LAR-11341-1]	c36	N75-19655	
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Miniature biaxial strain transducer [NASA-CASE-LAR-11648-1]	c35 N76-16396	Poil seal [NASA-CASE-XLE-05130]	c15 N69-21362
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[NASA-CASE-XLE-00103]	c28 N70-33241	Rocket thrust chamber Patent	
Modification and improvements to cooled blades Patent		[NASA-CASE-XLE-00145]	c28 N70-36806
[NASA-CASE-XLE-00092]	c15 N70-33264	Solid state power mapping instrument Patent	
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[NASA-CASE-XLE-00168]	c11 N70-33278	Annular supersonic decelerator or drogue Patent	
High temperature nickel-base alloy Patent		[NASA-CASE-XLE-00222]	c02 N70-37939
[NASA-CASE-XLE-00151]	c17 N70-33283	Rocket engine Patent	
Annular rocket motor and nozzle configuration Patent		[NASA-CASE-XLE-00342]	c28 N70-37980
[NASA-CASE-XLE-00078]	c28 N70-33284	Variable sweep aircraft wing Patent	
Reinforced metallic composites Patent		[NASA-CASE-XLE-00350]	c02 N70-38011
[NASA-CASE-XLE-02428]	c17 N70-33288	Apparatus for transferring cryogenic liquids Patent	
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[NASA-CASE-XLE-00046]	c15 N70-33311	Method of producing porous tungsten ionizers for ion rocket engines Patent	
Wire grid forming apparatus Patent		[NASA-CASE-XLE-00455]	c28 N70-38197
[NASA-CASE-XLE-00023]	c15 N70-33330	Method of making fiber reinforced metallic composites Patent	
Electro-thermal rocket Patent		[NASA-CASE-XLE-00231]	c17 N70-38198
[NASA-CASE-XLE-00267]	c28 N70-33356	Rocket engine injector Patent	
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[NASA-CASE-XLE-00037]	c28 N70-33372	Reinforced metallic composites Patent	
Apparatus for igniting solid propellants Patent		[NASA-CASE-XLE-00228]	c17 N70-38490
[NASA-CASE-XLE-00207]	c28 N70-33375	Rocket motor system Patent	
Flexible seal for valves Patent		[NASA-CASE-XLE-00323]	c28 N70-38505
[NASA-CASE-XLE-00101]	c15 N70-33376	Particle beam measurement apparatus using beam kinetic energy to change the heat sensitive resistance of the detection probe Patent	
Apparatus for making a metal slurry product Patent		[NASA-CASE-XLE-00243]	c14 N70-38602
[NASA-CASE-XLE-00010]	c15 N70-33382	Penshape exhaust nozzle for supersonic engine Patent	
Energy conversion apparatus Patent		[NASA-CASE-XLE-00057]	c28 N70-38711
[NASA-CASE-XLE-00212]	c03 N70-34134	Multistage multiple-reentry turbine Patent	
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[NASA-CASE-XLE-00266]	c14 N70-34156	Gas lubricant compositions Patent	
Electrothermal rockets having improved heat exchangers Patent		[NASA-CASE-XLE-00353]	c18 N70-39897
[NASA-CASE-XLE-01783]	c28 N70-34175	Telescoping-spike supersonic inlet for aircraft engines Patent	
Venting vapor apparatus Patent		[NASA-CASE-XLE-00005]	c28 N70-39899
[NASA-CASE-XLE-00288]	c15 N70-34247	High temperature spark plug Patent	
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[NASA-CASE-XLE-00818]	c22 N70-34248	Low viscosity magnetic fluid obtained by the colloidal suspension of magnetic particles Patent	
Thrust vector control apparatus Patent		[NASA-CASE-XLE-01512]	c12 N70-40124
[NASA-CASE-XLE-00208]	c28 N70-34294	Apparatus for absorbing and measuring power Patent	
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[NASA-CASE-XLE-00298]	c22 N70-34501	Device for directionally controlling electromagnetic radiation Patent	
High temperature heat source Patent		[NASA-CASE-XLE-01716]	c09 N70-40234
[NASA-CASE-XLE-00490]	c33 N70-34545	Method for continuous variation of propellant flow and thrust in propulsive devices Patent	
Gaseous nuclear rocket Patent		[NASA-CASE-XLE-00177]	c28 N70-40367
[NASA-CASE-XLE-00321]	c22 N70-34572	Apparatus for increasing ion engine beam density Patent	
Simulated fuel assembly Patent		[NASA-CASE-XLE-00519]	c28 N70-41576
[NASA-CASE-XLE-00724]	c14 N70-34669	Poldable conduit Patent	
Inlet deflector for jet engines Patent		[NASA-CASE-XLE-00620]	c32 N70-41579
[NASA-CASE-XLE-00388]	c28 N70-34788	Liquid storage tank venting device for zero gravity environment Patent	
Radiant heater having formed filaments Patent		[NASA-CASE-XLE-01449]	c15 N70-41646
[NASA-CASE-XLE-00387]	c33 N70-34812	Method of making a regeneratively cooled combustion chamber Patent	
Optical torque meter Patent		[NASA-CASE-XLE-00150]	c28 N70-41818
[NASA-CASE-XLE-00503]	c14 N70-34818	Instrument for the quantitative measurement of radiation at multiple wave lengths Patent	
Electric propulsion engine test chamber Patent		[NASA-CASE-XLE-00011]	c14 N70-41946
[NASA-CASE-XLE-00252]	c11 N70-34844	Small rocket engine Patent	
Conical valve plug Patent		[NASA-CASE-XLE-00685]	c28 N70-41992
[NASA-CASE-XLE-00715]	c15 N70-34859	Apparatus for positioning and loading a test specimen Patent	
Channel-type shell construction for rocket engines and the like Patent		[NASA-CASE-XLE-01300]	c15 N70-41993
[NASA-CASE-XLE-00144]	c28 N70-34860	Liquid flow sight assembly Patent	
Non-reusable kinetic energy absorber Patent		[NASA-CASE-XLE-02998]	c14 N70-42074
[NASA-CASE-XLE-00810]	c15 N70-34861	Inductive liquid level detection system Patent	
High temperature testing apparatus Patent		[NASA-CASE-XLE-01609]	c14 N71-10500
[NASA-CASE-XLE-00335]	c14 N70-35368	Method of forming thin window drifted silicon charged particle detector Patent	
Ion thruster cathode Patent Application		[NASA-CASE-XLE-00808]	c24 N71-10560
[NASA-CASE-XLE-10814-1]	c28 N70-35422	Electrostatic thruster with improved insulators Patent	
Formed metal ribbon wrap Patent		[NASA-CASE-XLE-01902]	c28 N71-10574
[NASA-CASE-XLE-00164]	c15 N70-36411	Thin-walled pressure vessel Patent	
Multistage multiple-reentry turbine Patent		[NASA-CASE-XLE-04677]	c15 N71-10577
[NASA-CASE-XLE-00170]	c15 N70-36412	Method of making a silicon semiconductor device Patent	
Fluid coupling Patent			
[NASA-CASE-XLE-00397]	c15 N70-36492		
Injector-valve device Patent			
[NASA-CASE-XLE-00303]	c15 N70-36535		
Nickel-base alloy Patent			
[NASA-CASE-XLE-00283]	c17 N70-36616		
Apparatus having coaxial capacitor structure for measuring fluid density Patent			



[NASA-CASE-XLE-02792]	c26 N71-10607	High voltage divider system Patent	
Metallic film diffusion for boundary lubrication Patent		[NASA-CASE-XLE-02008]	c09 N71-21583
[NASA-CASE-XLE-01765]	c18 N71-10772	Plasma device feed system Patent	
Molecular beam velocity selector Patent		[NASA-CASE-XLE-02902]	c25 N71-21694
[NASA-CASE-XLE-01533]	c11 N71-10777	Burning rate control of solid propellants Patent	
Meteoroid sensing apparatus having a coincidence network connected to a pair of capacitors Patent		[NASA-CASE-XLE-03494]	c27 N71-21819
[NASA-CASE-XLE-01246]	c14 N71-10797	Protective device for machine and metalworking tools Patent	
Capacitor and method of making same Patent		[NASA-CASE-XLE-01092]	c15 N71-22797
[NASA-CASE-LEW-10364-1]	c09 N71-13522	Cryogenic insulation system Patent	
Capillary radiator Patent		[NASA-CASE-XLE-04222]	c23 N71-22881
[NASA-CASE-XLE-03307]	c33 N71-14035	Method for producing fiber reinforced metallic composites Patent	
Electrostatic ion engine having a permanent magnetic circuit Patent		[NASA-CASE-XLE-03925]	c18 N71-22894
[NASA-CASE-XLE-01124]	c28 N71-14043	Thermal shock apparatus Patent	
Split welding chamber Patent		[NASA-CASE-XLE-02024]	c14 N71-22964
[NASA-CASE-LEW-11531]	c15 N71-14932	Arc electrode of graphite with ball tip Patent	
Method and apparatus for making curved reflectors Patent		[NASA-CASE-XLE-04788]	c09 N71-22987
[NASA-CASE-XLE-08917]	c15 N71-15597	Gas purged dry box glove Patent	
Method of making a diffusion bonded refractory coating Patent		[NASA-CASE-XLE-02531]	c05 N71-23080
[NASA-CASE-XLE-01604-2]	c15 N71-15610	Automatic recording McLeod gauge Patent	
Black-body furnace Patent		[NASA-CASE-XLE-03280]	c14 N71-23093
[NASA-CASE-XLE-01399]	c33 N71-15625	Electronic cathode having a brush-like structure and a relatively thick oxide emissive coating Patent	
Method of igniting solid propellants Patent		[NASA-CASE-XLE-04501]	c09 N71-23190
[NASA-CASE-XLE-01988]	c27 N71-15634	High temperature ferromagnetic cobalt-base alloy Patent	
Fluid dispensing apparatus and method Patent		[NASA-CASE-XLE-03629]	c17 N71-23248
[NASA-CASE-XLE-01182]	c27 N71-15635	Induction furnace with perforated tungsten foil shielding Patent	
Automatically deploying nozzle exit cone extension Patent		[NASA-CASE-XLE-04026]	c14 N71-23267
[NASA-CASE-XLE-01640]	c31 N71-15637	Gd or Sm doped silicon semiconductor composition Patent	
High temperature cobalt-base alloy Patent		[NASA-CASE-XLE-10715]	c26 N71-23292
[NASA-CASE-XLE-00726]	c17 N71-15644	Protection of serially connected solar cells against open circuits by the use of shunting diode Patent	
Method of making a rocket motor casing Patent		[NASA-CASE-XLE-04535]	c03 N71-23354
[NASA-CASE-XLE-00409]	c28 N71-15658	Superconducting alternator Patent	
Rocket motor casing Patent		[NASA-CASE-XLE-02823]	c09 N71-23443
[NASA-CASE-XLE-05689]	c28 N71-15659	Silicon solar cell with cover glass bonded to cell by metal pattern Patent	
Electrostatic ion rocket engine Patent		[NASA-CASE-XLE-08569]	c03 N71-23449
[NASA-CASE-XLE-02066]	c28 N71-15661	Analytical test apparatus and method for determining oxide content of alkali metal Patent	
High temperature cobalt-base alloy Patent		[NASA-CASE-XLE-01997]	c06 N71-23527
[NASA-CASE-XLE-02991]	c17 N71-16025	Thermionic converter with current augmented by self induced magnetic field Patent	
Nickel-base alloy containing Mo-W-Al-Cr-Ta-Zr-C-Nb-B Patent		[NASA-CASE-XLE-01903]	c22 N71-23599
[NASA-CASE-XLE-02082]	c17 N71-16026	Semiconductor material and method of making same Patent	
Method of improving the reliability of a rolling element system Patent		[NASA-CASE-XLE-02798]	c26 N71-23654
[NASA-CASE-XLE-02999]	c15 N71-16052	Insulation system Patent	
Process of casting heavy slips Patent		[NASA-CASE-XLE-02647]	c18 N71-23658
[NASA-CASE-XLE-00106]	c15 N71-16076	Self-lubricating fluoride metal composite materials Patent	
Boiler for generating high quality vapor Patent		[NASA-CASE-XLE-08511-2]	c18 N71-23710
[NASA-CASE-XLE-00785]	c33 N71-16104	Alloys for bearings Patent	
Method of making self lubricating fluoride-metal composite materials Patent		[NASA-CASE-XLE-05033]	c15 N71-23810
[NASA-CASE-XLE-08511-2]	c18 N71-16105	Extrusion die for refractory metals Patent	
Thrust and direction control apparatus Patent		[NASA-CASE-XLE-06773]	c15 N71-23817
[NASA-CASE-XLE-03583]	c31 N71-17629	Combustion chamber Patent	
Linear magnetic brake with two windings Patent		[NASA-CASE-XLE-04857]	c28 N71-23968
[NASA-CASE-XLE-05079]	c15 N71-17652	Metallic film diffusion for boundary lubrication Patent	
Method of lubricating rolling element bearings Patent		[NASA-CASE-XLE-10337]	c15 N71-24046
[NASA-CASE-XLE-09527]	c15 N71-17688	Process for producing dispersion strengthened nickel with aluminum Patent	
Hot wire liquid level detector for cryogenic fluids Patent		[NASA-CASE-XLE-06969]	c17 N71-24142
[NASA-CASE-XLE-00454]	c23 N71-17802	Thermal radiation shielding Patent	
Pulsed differential comparator circuit Patent		[NASA-CASE-XLE-03432]	c33 N71-24145
[NASA-CASE-XLE-03804]	c10 N71-19471	Method of attaching a cover glass to a silicon solar cell Patent	
Poil seal Patent		[NASA-CASE-XLE-08569-2]	c03 N71-24681
[NASA-CASE-XLE-05130-2]	c15 N71-19570	Rocket engine injector Patent	
Generator for a space power system Patent		[NASA-CASE-XLE-03157]	c28 N71-24736
[NASA-CASE-XLE-04250]	c09 N71-20446	Multialarm summary alarm Patent	
Method of making electrical contact on silicon solar cell and resultant product Patent		[NASA-CASE-XLE-03061-1]	c10 N71-24798
[NASA-CASE-XLE-04787]	c03 N71-20492	Apparatus for making curved reflectors Patent	
Small plasma probe Patent		[NASA-CASE-XLE-08917-2]	c15 N71-24836
[NASA-CASE-XLE-02578]	c25 N71-20747	Flow angle sensor and read out system Patent	
Combined electrolysis device and fuel cell and method of operation Patent		[NASA-CASE-XLE-04503]	c14 N71-24864
[NASA-CASE-XLE-01645]	c03 N71-20904	Shock tube powder dispersing apparatus Patent	
Pressure monitoring with a plurality of ionization gauges controlled at a central location Patent		[NASA-CASE-XLE-04946]	c17 N71-24911
[NASA-CASE-XLE-00787]	c14 N71-21090	Pneumatic oscillator Patent	
Control of transverse instability in rocket combustors Patent		[NASA-CASE-LEW-10345-1]	c10 N71-25899
[NASA-CASE-XLE-04603]	c33 N71-21507	Heat activated cell with alkali anode and alkali salt electrolyte Patent	

[NASA-CASE-LEW-11358]	c03 N71-26084	Inductance device with vacuum insulation	
Method of producing refractory composites containing tantalum carbide, hafnium carbide, and hafnium boride Patent		[NASA-CASE-LEW-10330-1]	c09 N72-27226
[NASA-CASE-XLE-03940]	c18 N71-26153	Apparatus for sensing temperature	
Ion beam deflector Patent		[NASA-CASE-XLE-05230]	c14 N72-27410
[NASA-CASE-LEW-10689-1]	c28 N71-26173	Apparatus for producing metal powders	
Rolling element bearings Patent		[NASA-CASE-XLE-06461-2]	c17 N72-28535
[NASA-CASE-XLE-09527-2]	c15 N71-26189	Refractory metal base alloy composites	
Ion thruster accelerator system Patent		[NASA-CASE-XLE-03940-2]	c17 N72-28536
[NASA-CASE-LEW-10106-1]	c28 N71-26642	Apparatus for producing high purity I-123	
Propellant feed isolator Patent		[NASA-CASE-LEW-10518-2]	c24 N72-28714
[NASA-CASE-LEW-10210-1]	c28 N71-26781	Spiral groove seal	
Heat activated cell Patent		[NASA-CASE-XLE-10326-2]	c15 N72-29488
[NASA-CASE-LEW-11359]	c03 N71-28579	Production of high purity I-123	
Process for glass coating an ion accelerator grid Patent		[NASA-CASE-LEW-10518-1]	c24 N72-33681
[NASA-CASE-LEW-10278-1]	c15 N71-28582	Electrostatic collector for charged particles	
Fluid jet amplifier Patent		[NASA-CASE-LEW-11192-1]	c09 N73-13208
[NASA-CASE-XLE-09341]	c12 N71-28741	Method of making apparatus for sensing temperature	
Gas core nuclear reactor Patent		[NASA-CASE-XLE-05230-2]	c14 N73-13417
[NASA-CASE-LEW-10250-1]	c22 N71-28759	Method of forming superalloys	
Gas turbine combustor Patent		[NASA-CASE-LEW-10805-1]	c15 N73-13465
[NASA-CASE-LEW-10286-1]	c28 N71-28915	Rocket thrust throttling system	
Cyclic switch Patent		[NASA-CASE-LEW-10374-1]	c28 N73-13773
[NASA-CASE-LEW-10155-1]	c09 N71-29035	Gas turbine engine fuel control	
Temperature reducing coating for metals subject to flame exposure Patent		[NASA-CASE-LEW-11187-1]	c28 N73-19793
[NASA-CASE-XLE-00035]	c33 N71-29151	Thermocouple tape	
Liquid spray cooling method Patent		[NASA-CASE-LEW-11072-1]	c14 N73-24472
[NASA-CASE-XLE-00027]	c33 N71-29152	Method and apparatus for sputtering utilizing an apertured electrode and a pulsed substrate bias	
Turbo-machine blade vibration damper Patent		[NASA-CASE-LEW-10920-1]	c17 N73-24569
[NASA-CASE-XLE-00155]	c28 N71-29154	Magneto-plasma-dynamic arc thruster	
Corrosion resistant beryllium Patent		[NASA-CASE-LEW-11180-1]	c25 N73-25760
[NASA-CASE-LEW-10327]	c17 N71-33408	Ablative system	
Integrated thermoelectric generator/space antenna combination		[NASA-CASE-LEW-10359-2]	c33 N73-25952
[NASA-CASE-XER-09521]	c09 N72-12136	Parasitic suppressing circuit	
Sensing probe		[NASA-CASE-ERC-10403-1]	c10 N73-26228
[NASA-CASE-LEW-10281-1]	c14 N72-17327	Twisted multifilament superconductor	
Method of making emf cell		[NASA-CASE-LEW-11726-1]	c26 N73-26752
[NASA-CASE-LEW-11359-2]	c03 N72-20034	Ophthalmic method and apparatus	
Gaseous control system for nuclear reactors		[NASA-CASE-LEW-11669-1]	c05 N73-27062
[NASA-CASE-XLE-04599]	c22 N72-20597	Rocket propellant injection	
Switching regulator		[NASA-CASE-LEW-11071-1]	c27 N73-27695
[NASA-CASE-LEW-11005-1]	c09 N72-21243	Single grid accelerator for an ion thruster	
Saturation current protection apparatus for saturable core transformers		[NASA-CASE-XLE-10453-2]	c28 N73-27699
[NASA-CASE-ERC-10075-2]	c09 N72-22196	Preparation of polyimides from mixtures of monomeric diamines and esters of polycarboxylic acids	
Pulse coupling circuit		[NASA-CASE-LEW-11325-1]	c06 N73-27980
[NASA-CASE-LEW-10433-1]	c09 N72-22197	Method and apparatus for measuring electromagnetic radiation	
Solid state remote circuit selector switch		[NASA-CASE-LEW-11159-1]	c14 N73-28488
[NASA-CASE-LEW-10387]	c09 N72-22201	Welding blades to rotors	
Load-insensitive electrical device		[NASA-CASE-LEW-10533-1]	c15 N73-28515
[NASA-CASE-XER-11046]	c09 N72-22203	An ion exchange nuclear reactor	
High speed rolling element bearing		[NASA-CASE-LEW-11645-2]	c22 N73-28660
[NASA-CASE-LEW-10856-1]	c15 N72-22490	Low mass rolling element for bearings	
Production of metal powders		[NASA-CASE-LEW-11087-1]	c15 N73-30458
[NASA-CASE-XLE-06461]	c17 N72-22530	Swirl can primary combustor	
Nickel base alloy		[NASA-CASE-LEW-11326-1]	c23 N73-30665
[NASA-CASE-LEW-10874-1]	c17 N72-22535	Enhanced diffusion welding	
Ion thruster magnetic field control		[NASA-CASE-LEW-11388-1]	c15 N73-32358
[NASA-CASE-LEW-10835-1]	c28 N72-22771	High speed hybrid bearing comprising a fluid bearing and a rolling bearing connected in series	
Electrically conductive fluorocarbon polymer		[NASA-CASE-LEW-11152-1]	c15 N73-32359
[NASA-CASE-XLE-06774-2]	c06 N72-25150	Nickel aluminide coated low alloy stainless steel	
Analog signal to Discrete Time Interval Converter (ASDTIC)		[NASA-CASE-LEW-11267-1]	c17 N73-32414
[NASA-CASE-ERC-10048]	c09 N72-25251	Cobalt-base alloy	
Controllable load insensitive power converters		[NASA-CASE-LEW-10436-1]	c17 N73-32415
[NASA-CASE-ERC-10268]	c09 N72-25252	Nuclear fuel elements	
Angular velocity and acceleration measuring apparatus		[NASA-CASE-XLE-00209]	c22 N73-32528
[NASA-CASE-ERC-10292]	c14 N72-25410	Method of fabricating a twisted composite superconductor	
Electrical insulating layer process		[NASA-CASE-LEW-11015]	c26 N73-32571
[NASA-CASE-LEW-10489-1]	c15 N72-25447	Space vehicle with artificial gravity and earth-like environment	
Method for producing dispersion strengthened alloys by converting metal to a halide, comminuting, reducing the metal halide to the metal and sintering		[NASA-CASE-LEW-11101-1]	c31 N73-32750
[NASA-CASE-LEW-10450-1]	c15 N72-25448	Production of hollow components for rolling element bearings by diffusion welding	
Selective nickel deposition		[NASA-CASE-LEW-11026-1]	c15 N73-33383
[NASA-CASE-LEW-10965-1]	c15 N72-25452	Electron beam controller	
Method of making fiber composites		[NASA-CASE-LEW-11617-1]	c09 N74-10195
[NASA-CASE-LEW-10424-2-2]	c18 N72-25539	Spiral groove seal	
Electricity measurement devices employing liquid crystalline materials		[NASA-CASE-LEW-10326-3]	c15 N74-10474
[NASA-CASE-ERC-10275]	c26 N72-25680	Apparatus for producing high purity I-123	
Ablative system		[NASA-CASE-LEW-10518-3]	c15 N74-10476
[NASA-CASE-LEW-10359]	c33 N72-25911	Method of heat treating a formed powder product material	
		[NASA-CASE-LEW-10805-3]	c17 N74-10521

Apparatus for welding blades to rotors [NASA-CASE-LEW-10533-2]	c15 N74-11300	Duplex aluminized coatings [NASA-CASE-LEW-11696-2]	c26 N75-19408
High powered arc electrodes [NASA-CASE-LEW-11162-1]	c09 N74-12913	Heat exchanger [NASA-CASE-LEW-12252-1]	c34 N75-19579
Method of forming articles of manufacture from superalloy powders [NASA-CASE-LEW-10805-2]	c15 N74-13179	A heat exchanger and method of making [NASA-CASE-LEW-12441-1]	c34 N75-19580
Fine particulate capture device [NASA-CASE-LEW-11583-1]	c15 N74-13199	High speed, self-acting shaft seal [NASA-CASE-LEW-11274-1]	c37 N75-21631
Deposition of alloy films [NASA-CASE-LEW-11262-1]	c18 N74-13270	Sustained arc ignition system [NASA-CASE-LEW-12444-1]	c33 N75-25056
Supersonic-combustion rocket [NASA-CASE-LEW-11058-1]	c28 N74-13502	A zirconium modified nickel-copper alloy [NASA-CASE-LEW-12245-1]	c26 N75-26087
Method of making silicon solar cell array [NASA-CASE-LEW-11069-1]	c03 N74-14784	High power laser apparatus and system [NASA-CASE-XLE-2529-2]	c36 N75-27364
Spiral groove seal [NASA-CASE-XLE-10326-4]	c15 N74-15125	Electronic analog divider [NASA-CASE-LEW-11881-1]	c33 N75-28316
Method of making rolling element bearings [NASA-CASE-LEW-11087-2]	c15 N74-15128	Combination automatic-starting electrical plasma torch and gas shutoff valve [NASA-CASE-XLE-10717]	c37 N75-29426
Gas turbine exhaust nozzle [NASA-CASE-LEW-11569-1]	c28 N74-15453	Flow measuring apparatus [NASA-CASE-LEW-12078-1]	c35 N75-30503
Demodulator for carrier transducers [NASA-CASE-NUC-10107-1]	c09 N74-17930	Lubricated journal bearing [NASA-CASE-LEW-11076-3]	c37 N75-30562
Diffusion welding in air [NASA-CASE-LEW-11387-1]	c15 N74-18128	Protected isotope heat source [NASA-CASE-LEW-11227-1]	c73 N75-30876
Fabrication of polyphenylquinoxaline composite articles by means of in situ polymerization of monomers [NASA-CASE-LEW-11879-1]	c18 N74-20152	Drilled ball bearing with a one piece anti-tipping cage assembly [NASA-CASE-LEW-11925-1]	c37 N75-31446
Airflow control system for supersonic inlets [NASA-CASE-LEW-11188-1]	c02 N74-20646	Ion beam thruster shield [NASA-CASE-LEW-12082-1]	c20 N75-32166
Rapidly pulsed, high intensity, incoherent light source [NASA-CASE-XLE-2529-3]	c09 N74-20859	Hybrid composite laminate structures [NASA-CASE-LEW-12118-1]	c24 N75-32180
Electromagnetic flow rate meter [NASA-CASE-LEW-10981-1]	c14 N74-21018	Electrically rechargeable redox flow cell [NASA-CASE-LEW-12220-1]	c44 N75-32586
Diffusion welding [NASA-CASE-LEW-11388-2]	c15 N74-21055	Method of making an insulation foil [NASA-CASE-LEW-11484-1]	c24 N75-33181
Journal bearings [NASA-CASE-LEW-11076-1]	c15 N74-21061	Ophthalmic liquification pump [NASA-CASE-LEW-12051-1]	c52 N75-33640
Glass-to-metal seals comprising relatively high expansion metals [NASA-CASE-LEW-10698-1]	c15 N74-21063	Cesium thermionic converters having lanthanum hexaboride electrodes [NASA-CASE-LEW-12038-1]	c44 N76-10570
Hollow rolling element bearings [NASA-CASE-LEW-11087-3]	c15 N74-21064	Improved bimetallic junctions [NASA-CASE-LEW-11573-1]	c26 N76-13267
Low level signal limiter [NASA-CASE-XLE-04791]	c14 N74-22096	Thermocouples of tantalum and rhenium alloys for more stable vacuum-high temperature performance [NASA-CASE-LEW-12050-1]	c35 N76-13454
Load insensitive electrical device [NASA-CASE-XER-11046-2]	c09 N74-22864	Controlled separation combustor [NASA-CASE-LEW-11593-1]	c20 N76-14190
Reinforced structural plastics [NASA-CASE-LEW-10199-1]	c18 N74-23125	Rocket chamber and method of making [NASA-CASE-LEW-11118-2]	c20 N76-14191
Jet exhaust noise suppressor [NASA-CASE-LEW-11286-1]	c02 N74-27490	Nickel base alloy [NASA-CASE-LEW-12270-1]	c26 N76-14247
High current electrical lead [NASA-CASE-LEW-10950-1]	c09 N74-27683	Shock position sensor for supersonic inlets [NASA-CASE-LEW-11915-1]	c35 N76-14431
Magnetocaloric pump [NASA-CASE-LEW-11672-1]	c15 N74-27904	Apparatus for forming dished ion thruster grids [NASA-CASE-LEW-11694-2]	c37 N76-14461
Supersonic fan blading [NASA-CASE-LEW-11402-1]	c28 N74-28226	Covered silicon solar cells and method of manufacture [NASA-CASE-LEW-11065-2]	c44 N76-14600
Production of pure metals [NASA-CASE-LEW-10906-1]	c06 N74-30502	Solar cell surface treatment [NASA-CASE-LEW-11330-1]	c44 N76-14612
Sputtering holes with ion beamlets [NASA-CASE-LEW-11646-1]	c28 N74-31269	Silicon nitride coated, plastic covered solar cell [NASA-CASE-LEW-11496-1]	c44 N76-14613
Method of electroforming a rocket chamber [NASA-CASE-LEW-11118-1]	c15 N74-32919	High temperature beryllium oxide capacitor [NASA-CASE-LEW-11938-1]	c33 N76-15373
Journal Bearings [NASA-CASE-LEW-11076-2]	c15 N74-32921	Thermocouple tape [NASA-CASE-LEW-11072-2]	c35 N76-15434
Solar cell assembly [NASA-CASE-LEW-11549-1]	c03 N74-33484	Fluid journal bearings [NASA-CASE-LEW-11076-4]	c37 N76-15461
Hall effect magnetometer [NASA-CASE-LEW-11632-3]	c14 N74-33944	Selective coating for solar panels [NASA-CASE-LEW-12159-1]	c44 N76-15603
Spatial filter for Q-switched lasers [NASA-CASE-LEW-12164-1]	c16 N74-34010	Deuterium pass through target [NASA-CASE-LEW-11866-1]	c72 N76-15860
Catalytic trimerization of aromatic nitriles and triaryl-s-triazine ring cross-linked high temperature resistant polymers and copolymers made thereby [NASA-CASE-LEW-12053-1]	c06 N74-34579	Improved method of making reinforced composite structures [NASA-CASE-LEW-12619-1]	c24 N76-16181
Hall effect magnetometer [NASA-CASE-LEW-11632-2]	c35 N75-13213	Fused silicide coatings containing discrete particles for protecting niobium alloys [NASA-CASE-LEW-11179-1]	c27 N76-16229
Method of protecting the surface of a substrate [NASA-CASE-LEW-11696-1]	c37 N75-13261	Tantalum modified ferritic iron base alloys [NASA-CASE-LEW-12095-1]	c26 N76-17233
Circuit for detecting initial systole and diastolic notch [NASA-CASE-LEW-11581-1]	c54 N75-13531	Method of forming metal hydride films [NASA-CASE-LEW-12083-1]	c26 N76-18262
Insulation foil and method of making [NASA-CASE-LEW-11484-2]	c24 N75-14839	Process for making anhydrous metal halides [NASA-CASE-LEW-11860-1]	c37 N76-18458
Method of making dished ion thruster grids [NASA-CASE-LEW-11694-1]	c20 N75-18310	Anode for ion thruster [NASA-CASE-LEW-12048-1]	c20 N76-19227
		Thermocouples of molybdenum and iridium alloys for more stable vacuum-high temperature	

performance  
[NASA-CASE-LEW-12174-1] c35 N76-19407

Hydrostatic bearing support  
[NASA-CASE-LEW-11158-1] c37 N76-19440

Flexible formulated plastic separators for  
alkaline batteries  
[NASA-CASE-LEW-12363-1] c44 N76-19552

Fuel combustor  
[NASA-CASE-LEW-12137-1] c20 N76-20215

Closed loop spray cooling apparatus  
[NASA-CASE-LEW-11981-1] c37 N76-20486

Counter pumping debris excluder and separator  
[NASA-CASE-LEW-11855-1] c37 N76-20487

Circumferential shaft seal  
[NASA-CASE-LEW-12119-1] c37 N76-20488

Method of constructing dished ion thruster grids  
to provide hole array spacing compensation  
[NASA-CASE-LEW-11876-1] c20 N76-21276

Splash groove fuel injector  
[NASA-CASE-LEW-12417-1] c07 N76-22198

Bearing material  
[NASA-CASE-LEW-11930-1] c24 N76-22309

Atonic hydrogen storage method and apparatus  
[NASA-CASE-LEW-12081-1] c28 N76-22399

Fluid seal for rotating shafts  
[NASA-CASE-LEW-11676-1] c37 N76-22541

Corneal seal device  
[NASA-CASE-LEW-12258-1] c52 N76-22891

Thermal barrier coating system  
[NASA-CASE-LEW-12554-1] c24 N76-23359

Method of making an apertured casting  
[NASA-CASE-LEW-11169-1] c37 N76-23570

Multi-cell battery protection system  
[NASA-CASE-LEW-12039-1] c44 N76-23713

Improved tissue macerating instrument  
[NASA-CASE-LEW-12668-1] c52 N76-23837

Process for fabricating SiC semiconductor devices  
[NASA-CASE-LEW-12094-1] c76 N76-25049

Bearing material  
[NASA-CASE-LEW-11930-2] c24 N76-26282

Method of producing I-123  
[NASA-CASE-LEW-11390-4] c72 N76-26967

Method of producing I-123  
[NASA-CASE-LEW-11390-2] c25 N76-27383

Extraction and separation of a preferentially  
photo-dissociated molecular isotope into  
positive and negative ions by means of an  
electric field  
[NASA-CASE-LEW-12465-1] c72 N76-27967

Liquid metal slip ring  
[NASA-CASE-LEW-12277-1] c33 N76-28472

Gels as battery separators for soluble electrode  
cells  
[NASA-CASE-LEW-12364-1] c44 N76-28643

Direct heating surface combustor  
[NASA-CASE-LEW-11877-1] c44 N76-28646

Production of I-123  
[NASA-CASE-LEW-11390-3] c25 N76-29379

Process for preparing liquid metal electrical  
contact device  
[NASA-CASE-LEW-11978-1] c33 N76-29490

Thrust bearing  
[NASA-CASE-LEW-11949-1] c37 N76-29588

Inorganic-organic battery separator for alkaline  
batteries  
[NASA-CASE-LEW-12649-1] c44 N76-31674

Solar cell surface treatment  
[NASA-CASE-LEW-11330-2] c44 N76-33624

**NATIONAL AERONAUTICS AND SPACE ADMINISTRATION.  
MANNED SPACECRAFT CENTER, CAPE CANAVERAL, FLA.**

Electrode for biological recording  
[NASA-CASE-XMS-02872] c05 N69-21925

**NATIONAL AERONAUTICS AND SPACE ADMINISTRATION.  
MANNED SPACECRAFT CENTER, LANGLEY STATION, VA.**

Plural recorder system  
[NASA-CASE-XMS-06949] c09 N69-21467

**NATIONAL AERONAUTICS AND SPACE ADMINISTRATION.  
MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALA.**

Electrical feed-through connection for printed  
circuit boards and printed cable  
[NASA-CASE-XMP-01483] c14 N69-27431

Method for detecting hydrogen gas  
[NASA-CASE-XMP-03873] c06 N69-39733

Electrical connector Patent Application  
[NASA-CASE-MFS-14741] c09 N70-20737

Angular measurement system Patent  
[NASA-CASE-XMP-00447] c14 N70-33179

Insulating structure Patent  
[NASA-CASE-XMP-00341] c15 N70-33323

Space vehicle electrical system Patent  
[NASA-CASE-XMP-00517] c03 N70-34157

Pivotal shock absorbing pad assembly Patent  
[NASA-CASE-XMP-03856] c31 N70-34159

Gimbaled, partially submerged rocket  
nozzle Patent  
[NASA-CASE-XMP-01544] c28 N70-34162

Recoverable rocket vehicle Patent  
[NASA-CASE-XMP-00389] c31 N70-34176

Electrical discharge apparatus for forming  
Patent  
[NASA-CASE-XMP-00375] c15 N70-34249

Optical inspection apparatus Patent  
[NASA-CASE-XMP-00462] c14 N70-34298

Relay binary circuit Patent  
[NASA-CASE-XMP-00421] c09 N70-34502

Attitude and propellant flow control system and  
method Patent  
[NASA-CASE-XMP-00185] c21 N70-34539

Electrical connector for flat cables Patent  
[NASA-CASE-XMP-00324] c09 N70-34596

Externally pressurized fluid bearing Patent  
[NASA-CASE-XMP-00515] c15 N70-34664

Force measuring instrument Patent  
[NASA-CASE-XMP-00456] c14 N70-34705

Seismic displacement transducer Patent  
[NASA-CASE-XMP-00479] c14 N70-34794

Electric arc welding Patent  
[NASA-CASE-XMP-00392] c15 N70-34814

Assembly for recovering a capsule Patent  
[NASA-CASE-XMP-00641] c31 N70-36410

Printed cable connector Patent  
[NASA-CASE-XMP-00369] c09 N70-36494

Landing pad assembly for aerospace vehicles Patent  
[NASA-CASE-XMP-02853] c31 N70-36654

Electric arc driven wind tunnel Patent  
[NASA-CASE-XMP-00411] c11 N70-36913

Gravity device Patent  
[NASA-CASE-XMP-00424] c11 N70-38196

Injector for bipropellant rocket engines Patent  
[NASA-CASE-XMP-00148] c28 N70-38710

Electronic motor control system Patent  
[NASA-CASE-XMP-01129] c09 N70-38712

Slosh suppressing device and method Patent  
[NASA-CASE-XMP-00658] c12 N70-38997

Air bearing Patent  
[NASA-CASE-XMP-00339] c15 N70-39896

Instrument support with precise lateral  
adjustment Patent  
[NASA-CASE-XMP-00480] c14 N70-39898

Segmented back-up bar Patent  
[NASA-CASE-XMP-00640] c15 N70-39924

Collapsible loop antenna for space vehicle Patent  
[NASA-CASE-XMP-00437] c07 N70-40202

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[NASA-CASE-XMP-00722] c15 N70-40204

Electro-optical alignment control system Patent  
[NASA-CASE-XMP-00908] c14 N70-40238

Missile launch release system Patent  
[NASA-CASE-XMP-03198] c30 N70-40353

Double-acting shock absorber Patent  
[NASA-CASE-XMP-01045] c15 N70-40354

Portable alignment tool Patent  
[NASA-CASE-XMP-01452] c15 N70-41371

Device for suppressing sound and heat produced  
by high-velocity exhaust jets Patent  
[NASA-CASE-XMP-01813] c28 N70-41582

Unfired-ceramic flame-resistant insulation and  
method of making the same Patent  
[NASA-CASE-XMP-01030] c18 N70-41583

Pulse counting circuit which simultaneously  
indicates the occurrence of the nth pulse Patent  
[NASA-CASE-XMP-00906] c09 N70-41655

Support apparatus for dynamic testing Patent  
[NASA-CASE-XMP-01772] c11 N70-41677

Locking device with rolling detents Patent  
[NASA-CASE-XMP-01371] c15 N70-41829

Tank construction for space vehicles Patent  
[NASA-CASE-XMP-01899] c31 N70-41948

Positive displacement flowmeter Patent  
[NASA-CASE-XMP-02822] c14 N70-41994

Hydraulic support for dynamic testing Patent  
[NASA-CASE-XMP-03248] c11 N71-10604

Fiber optic vibration transducer and analyzer  
Patent  
[NASA-CASE-XMP-02433] c14 N71-10616

Method and means for damping nutation in a  
satellite Patent  
[NASA-CASE-XMP-00442] c31 N71-10747

Heat pipe thermionic diode power system Patent  
[NASA-CASE-XMP-05843] c03 N71-11055

## Synthesis of siloxane-containing epoxy polymers

Patent  
[NASA-CASE-MPS-13994-1] c06 N71-11240  
Bi-carrier demodulator with modulation Patent  
[NASA-CASE-XMP-01160] c07 N71-11298  
Harness assembly Patent  
[NASA-CASE-MPS-14671] c05 N71-12341  
Magnetic matrix memory system Patent  
[NASA-CASE-XMP-05835] c08 N71-12504  
Pulse amplitude and width detector Patent  
[NASA-CASE-XMP-06519] c09 N71-12519  
Microwave power receiving antenna Patent  
[NASA-CASE-MPS-20333] c09 N71-13486  
Hybrid holographic system using reflected and transmitted object beams simultaneously Patent  
[NASA-CASE-MPS-20074] c16 N71-15565  
Reactance control system Patent  
[NASA-CASE-XMP-01598] c21 N71-15583  
Apparatus for welding torch angle and seam tracking control Patent  
[NASA-CASE-XMP-03287] c15 N71-15607  
Multiway vortex valve system Patent  
[NASA-CASE-XMP-04709] c15 N71-15609  
Injector assembly for liquid fueled rocket engines Patent  
[NASA-CASE-XMP-00968] c28 N71-15660  
Space capsule ejection assembly Patent  
[NASA-CASE-XMP-03169] c31 N71-15675  
Air cushion lift pad Patent  
[NASA-CASE-MPS-14685] c31 N71-15689  
Method of making a molded connector Patent  
[NASA-CASE-XMP-03498] c15 N71-15986  
Regenerative braking system Patent  
[NASA-CASE-XMP-01096] c10 N71-16030  
Condition and condition duration indicator Patent  
[NASA-CASE-XMP-01097] c10 N71-16058  
Method and apparatus for securing to a spacecraft Patent  
[NASA-CASE-MPS-11133] c31 N71-16222  
Method and apparatus of simulating zero gravity conditions Patent  
[NASA-CASE-MPS-12750] c27 N71-16223  
Passive optical wind and turbulence detection system Patent  
[NASA-CASE-XMP-14032] c20 N71-16340  
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[NASA-CASE-XMP-05344] c31 N71-16345  
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[NASA-CASE-XMP-05844] c14 N71-17587  
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[NASA-CASE-XMP-12806] c14 N71-17588  
Burst diaphragm flow initiator Patent  
[NASA-CASE-MPS-12915] c11 N71-17600  
Vacuum deposition apparatus Patent  
[NASA-CASE-XMP-01667] c15 N71-17647  
Quick disconnect latch and handle combination Patent  
[NASA-CASE-MPS-11132] c15 N71-17649  
Method and apparatus for precision sizing and joining of large diameter tubes Patent  
[NASA-CASE-XMP-05114] c15 N71-17650  
Low temperature flexure fatigue cryostat Patent  
[NASA-CASE-XMP-02964] c14 N71-17659  
Precision stepping drive Patent  
[NASA-CASE-MPS-14772] c15 N71-17692  
Multi-mission module Patent  
[NASA-CASE-XMP-01543] c31 N71-17730  
Ratchet mechanism Patent  
[NASA-CASE-MPS-12805] c15 N71-17805  
Method of making impurity-type semiconductor electrical contacts Patent  
[NASA-CASE-XMP-01016] c26 N71-17818  
Apparatus for the determination of the existence or non-existence of a bonding between two members Patent  
[NASA-CASE-MPS-13686] c15 N71-18132  
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[NASA-CASE-XMP-07488] c11 N71-18773  
Space manufacturing machine Patent  
[NASA-CASE-MPS-20410] c15 N71-19214  
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[NASA-CASE-XMP-04680] c15 N71-19489  
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[NASA-CASE-MPS-10555] c11 N71-19494

## Weld control system using thermocouple wire Patent

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Evaporant source for vapor deposition Patent  
[NASA-CASE-XMP-06065] c15 N71-20395  
Satellite despina device Patent  
[NASA-CASE-XMP-08523] c31 N71-20396  
Method of coating circuit paths on printed circuit boards with solder Patent  
[NASA-CASE-XMP-01599] c09 N71-20705  
Elastomeric silazane polymers and process for preparing the same Patent  
[NASA-CASE-XMP-04133] c06 N71-20717  
Method of producing alternating ether siloxane copolymers Patent  
[NASA-CASE-XMP-02584] c06 N71-20905  
Honeycomb panel and method of making same Patent  
[NASA-CASE-XMP-01402] c18 N71-21651  
Portable milling tool Patent  
[NASA-CASE-XMP-03511] c15 N71-22799  
Energy absorbing device Patent  
[NASA-CASE-XMP-10040] c15 N71-22877  
Continuous detonation reaction engine Patent  
[NASA-CASE-XMP-06926] c28 N71-22983  
Adaptive tracking notch filter system Patent  
[NASA-CASE-XMP-01892] c10 N71-22986  
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[NASA-CASE-XMP-04163] c02 N71-23007  
Continuous turning slip ring assembly Patent  
[NASA-CASE-XMP-01049] c15 N71-23049  
Automatic welding speed controller Patent  
[NASA-CASE-XMP-01730] c15 N71-23050  
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[NASA-CASE-XMP-14301] c09 N71-23188  
Zero gravity apparatus Patent  
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[NASA-CASE-XMP-08217] c03 N71-23239  
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[NASA-CASE-XMP-03290] c15 N71-23256  
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[NASA-CASE-XMP-01669] c21 N71-23289  
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[NASA-CASE-XMP-10289] c14 N71-23699  
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[NASA-CASE-XMP-05224] c14 N71-23726  
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[NASA-CASE-XMP-04134] c14 N71-23755  
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[NASA-CASE-XMP-07808] c15 N71-23812  
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[NASA-CASE-XMP-07069] c15 N71-23815  
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[NASA-CASE-XMP-05941] c31 N71-23912  
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[NASA-CASE-XMP-10968] c14 N71-24234  
Method for leakage testing of tanks Patent  
[NASA-CASE-XMP-02392] c32 N71-24285  
Internal flare angle gauge Patent  
[NASA-CASE-XMP-04415] c14 N71-24693  
Pulse rise time and amplitude detector Patent  
[NASA-CASE-XMP-08804] c09 N71-24717  
System for maintaining a motor at a predetermined speed utilizing digital feedback means Patent  
[NASA-CASE-XMP-06892] c09 N71-24805  
Power system with heat pipe liquid coolant lines Patent  
[NASA-CASE-MPS-14114-2] c09 N71-24807  
Magnetomotive metal working device Patent  
[NASA-CASE-XMP-03793] c15 N71-24833  
Apparatus for determining the deflection of an electron beam impinging on a target Patent  
[NASA-CASE-XMP-06617] c09 N71-24843  
Transistor servo system including a unique differential amplifier circuit Patent  
[NASA-CASE-XMP-05195] c10 N71-24861  
RC rate generator for slow speed measurement Patent  
[NASA-CASE-XMP-02966] c10 N71-24863  
Method and apparatus for precision sizing and joining of large diameter tubes Patent  
[NASA-CASE-XMP-05114-3] c15 N71-24865

Duct coupling for single-handed operation Patent  
 [NASA-CASE-MPS-20395] c15 N71-24903  
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 [NASA-CASE-MPS-20385] c09 N71-24904  
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 parts Patent  
 [NASA-CASE-MPS-14971] c15 N71-24984  
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 [NASA-CASE-MPS-10068] c10 N71-25139  
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 joining of large diameter tubes Patent  
 [NASA-CASE-XMF-05114-2] c15 N71-26148  
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 contamination in vacuum Patent  
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 [NASA-CASE-MPS-20261] c14 N71-27005  
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 [NASA-CASE-MPS-14114] c33 N71-27862  
 Method of making shielded flat cable Patent  
 [NASA-CASE-MPS-13687] c09 N71-28691  
 A dc motor speed control system Patent  
 [NASA-CASE-MPS-14610] c09 N71-28886  
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 [NASA-CASE-XMF-05046] c33 N71-28892  
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 [NASA-CASE-MPS-11204] c14 N71-29134  
 Current regulating voltage divider  
 [NASA-CASE-MPS-20935] c09 N71-34212  
 Nuclear mass flowmeter  
 [NASA-CASE-MPS-20485] c14 N72-11365  
 Fine adjustment mount  
 [NASA-CASE-MPS-20249] c15 N72-11386  
 Method of making foamed materials in  
 zero gravity  
 [NASA-CASE-XMF-09902] c15 N72-11387  
 Air bearing assembly for curved surfaces  
 [NASA-CASE-MPS-20423] c15 N72-11388  
 Stud-bonding gun  
 [NASA-CASE-MPS-20299] c15 N72-11392  
 Apparatus for obtaining isotropic irradiation of  
 a specimen  
 [NASA-CASE-MPS-20095] c24 N72-11595  
 Wind tunnel test section  
 [NASA-CASE-MPS-20509] c11 N72-17183  
 Multiple image storing system for high speed  
 projectile holography  
 [NASA-CASE-MPS-20596] c14 N72-17324  
 Method of manufacturing semiconductor devices  
 using refractory dielectrics  
 [NASA-CASE-XER-08476-1] c26 N72-17820  
 Underwater space suit pressure control regulator  
 [NASA-CASE-MPS-20332] c05 N72-20097  
 Apparatus for making diamonds  
 [NASA-CASE-MPS-20698] c15 N72-20446  
 An airlock  
 [NASA-CASE-MPS-20922] c31 N72-20840  
 Photoetching of metal-oxide layers  
 [NASA-CASE-ERC-10108] c06 N72-21094  
 Liquid aerosol dispenser  
 [NASA-CASE-MPS-20829] c12 N72-21310  
 Optical probing of supersonic flows with  
 statistical correlation  
 [NASA-CASE-MPS-20642] c14 N72-21407  
 Mechanically actuated triggered hand  
 [NASA-CASE-MPS-20413] c15 N72-21463  
 Hermetically sealed elbow actuator  
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 Shielded flat cable  
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 Shock wave convergence apparatus  
 [NASA-CASE-MPS-20890] c14 N72-22439  
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 [NASA-CASE-MPS-20482] c15 N72-22492  
 Inorganic thermal control coatings  
 [NASA-CASE-MPS-20011] c18 N72-22566  
 High temperature furnace for melting  
 materials  
 in space  
 [NASA-CASE-MPS-20710] c11 N72-23215  
 Siloxane containing epoxide compounds  
 [NASA-CASE-MPS-13994-2] c06 N72-25148  
 Silphenylenesiloxane polymers having in-chain  
 perfluoroalkyl groups  
 [NASA-CASE-MPS-20979] c06 N72-25151  
 Emergency lunar communications system  
 [NASA-CASE-MPS-21042] c07 N72-25171  
 Lead attachment to high temperature devices  
 [NASA-CASE-ERC-10224] c09 N72-25261  
 Device for measuring bearing preload  
 [NASA-CASE-MPS-20434] c11 N72-25288  
 Multiple in-line docking capability for rotating  
 space stations  
 [NASA-CASE-MPS-20855-1] c31 N72-25853  
 Altitude simulation chamber for rocket engine  
 testing  
 [NASA-CASE-MPS-20620] c11 N72-27262  
 Fixture for supporting articles during vibration  
 tests  
 [NASA-CASE-MPS-20523] c14 N72-27412  
 Electrical connector  
 [NASA-CASE-MPS-20757] c09 N72-28225  
 Remote control manipulator for zero gravity  
 environment  
 [NASA-CASE-MPS-14405] c15 N72-28495  
 Thermal compensating structural member  
 [NASA-CASE-MPS-20433] c15 N72-28496  
 Semiconductor transducer device  
 [NASA-CASE-ERC-10087-2] c14 N72-31446  
 Coaxial high density, hypervelocity plasma  
 generator and accelerator with ionizable metal  
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 [NASA-CASE-MPS-20589] c25 N72-32688  
 Process for the preparation of brushite crystals  
 [NASA-CASE-ERC-10338] c04 N72-33072  
 Adjustable force probe  
 [NASA-CASE-MPS-20760] c14 N72-33377  
 Polyimide resin-fiberglass cloth laminates for  
 printed circuit boards  
 [NASA-CASE-MPS-20408] c18 N73-12604  
 Differential pressure control  
 [NASA-CASE-MPS-14216] c14 N73-13418  
 Redundant hydraulic control system for actuators  
 [NASA-CASE-MPS-20944] c15 N73-13466  
 Device and method for determining X ray  
 reflection efficiency of optical surfaces  
 [NASA-CASE-MPS-20243] c23 N73-13662  
 Process for making diamonds  
 [NASA-CASE-MPS-20698-2] c15 N73-19457  
 Test stand system for vacuum chambers  
 [NASA-CASE-MPS-21362] c11 N73-20267  
 Material fatigue testing system  
 [NASA-CASE-MPS-20673] c14 N73-20476  
 Ratemeter  
 [NASA-CASE-MPS-20418] c14 N73-24473  
 Underwater space suit pressure control regulator  
 [NASA-CASE-MPS-20332-2] c05 N73-25125  
 Maxometers (peak wind speed anemometers)  
 [NASA-CASE-MPS-20916] c14 N73-25460  
 Monitoring deposition of films  
 [NASA-CASE-MPS-20675] c26 N73-26751  
 Docking structure for spacecraft  
 [NASA-CASE-MPS-20863] c31 N73-26876  
 Wide temperature range electronic device with  
 lead attachment  
 [NASA-CASE-ERC-10224-2] c09 N73-27150  
 Restraint system for ergometer  
 [NASA-CASE-MPS-21046-1] c14 N73-27377  
 Apparatus and method for skin packaging articles  
 [NASA-CASE-MPS-20855] c15 N73-27405  
 Ergometer  
 [NASA-CASE-MPS-21109-1] c05 N73-27941  
 Tilting table for ergometer and for other  
 biomedical devices  
 [NASA-CASE-MPS-21010-1] c05 N73-30078  
 Measurement system  
 [NASA-CASE-MPS-20658-1] c14 N73-30386  
 Collimator of multiple plates with axially  
 aligned identical random arrays of apertures  
 [NASA-CASE-MPS-20546-2] c14 N73-30389  
 Holographic thin film analyzer  
 [NASA-CASE-MPS-20823-1] c16 N73-30476  
 Semiconductor surface protection material  
 [NASA-CASE-ERC-10339-1] c18 N73-30532  
 Polymerizable disilanol having in-chain  
 perfluoroalkyl groups  
 [NASA-CASE-MPS-20979-2] c06 N73-32030  
 Redundant speed control for brushless Hall  
 effect motor

[NASA-CASE-MPS-20207-1]	c09 N73-32107	Conductive elastomeric extensometer	
Induction motor control system with voltage controlled oscillator circuit		[NASA-CASE-MPS-21049-1]	c14 N74-27864
[NASA-CASE-MPS-21465-1]	c10 N73-32145	Device for measuring tensile forces	
Synthesis of superconducting compounds by explosive compaction of powders		[NASA-CASE-MPS-21728-1]	c14 N74-27865
[NASA-CASE-MPS-20861-1]	c18 N73-32437	Three mirror glancing incidence system for X-ray telescope	
Ultrasonic scanner for radial and flat panels		[NASA-CASE-MPS-21372-1]	c14 N74-27866
[NASA-CASE-MPS-20335-1]	c14 N74-10415	Flame detector operable in presence of proton radiation	
Digital computing cardiometer		[NASA-CASE-MPS-21577-1]	c03 N74-29410
[NASA-CASE-MPS-20284-1]	c05 N74-12778	Integrated P-channel MOS gyrator	
Integrated circuit package with lead structure and method of preparing the same		[NASA-CASE-MPS-22343-1]	c09 N74-34638
[NASA-CASE-MPS-21374-1]	c10 N74-12951	An attitude control system	
Vee-notching device		[NASA-CASE-MPS-22787-1]	c21 N74-35096
[NASA-CASE-MPS-20730-1]	c14 N74-13131	An improved heat exchanger	
Ultrasonic scanning system for in-place inspection of brazed tube joints		[NASA-CASE-MPS-22991-1]	c34 N75-10366
[NASA-CASE-MPS-20767-1]	c15 N74-15130	System for depositing thin films	
Method and apparatus for checking the stability of a setup for making reflection type holograms		[NASA-CASE-MPS-20775-1]	c31 N75-12161
[NASA-CASE-MPS-21455-1]	c16 N74-15146	Ultrasonic bone densitometer	
Method and apparatus for nondestructive testing		[NASA-CASE-MPS-20994-1]	c35 N75-12271
[NASA-CASE-MPS-21233-1]	c23 N74-15395	Strain gauge ambiguity sensor for segmented mirror active optical system	
Real time moving scene holographic camera system		[NASA-CASE-MPS-20506-1]	c35 N75-12273
[NASA-CASE-MPS-21087-1]	c14 N74-17153	Orthotic arm joint	
Nonflammable coating compositions		[NASA-CASE-MPS-21611-1]	c54 N75-12616
[NASA-CASE-MPS-20486-2]	c18 N74-17283	Automatically operable self-leveling load table	
Metering gun for dispensing precisely measured charges of fluid		[NASA-CASE-MPS-22039-1]	c09 N75-12968
[NASA-CASE-MPS-21163-1]	c05 N74-17853	Phase-locked servo system	
Omnidirectional wheel		[NASA-CASE-MPS-22073-1]	c33 N75-13139
[NASA-CASE-MPS-21309-1]	c15 N74-18125	Self-energized plasma compressor	
Reinforced polyquinoxaline gasket and method of preparing the same		[NASA-CASE-MPS-22145-1]	c75 N75-13625
[NASA-CASE-MPS-21364-1]	c15 N74-18126	Clear air turbulence detector	
Manual actuator		[NASA-CASE-MPS-21244-1]	c36 N75-15028
[NASA-CASE-MPS-21481-1]	c15 N74-18127	Variable frequency inverter for ac induction motors with torque, speed and braking control	
Cryogenic gyroscope housing		[NASA-CASE-MPS-22088-1]	c33 N75-15874
[NASA-CASE-MPS-21136-1]	c23 N74-18323	Leak detector	
Automatic frequency control for FM transmitter		[NASA-CASE-MPS-21761-1]	c35 N75-15931
[NASA-CASE-MPS-21540-1]	c07 N74-19790	Ergometer calibrator	
Microwave power transmission system wherein level of transmitted power is controlled by reflections from receiver		[NASA-CASE-MPS-21045-1]	c35 N75-15932
[NASA-CASE-MPS-21470-1]	c10 N74-19870	Space vehicle	
Reduced gravity fecal collector seat and urinal		[NASA-CASE-MPS-22734-1]	c18 N75-19329
[NASA-CASE-MPS-22102-1]	c05 N74-20725	Method of growing composites of the type exhibiting the Soret effect	
Metabolic analyzer		[NASA-CASE-MPS-22926-1]	c25 N75-19380
[NASA-CASE-MPS-21415-1]	c05 N74-20728	Meter for use in detecting tension in straps having predetermined elastic characteristics	
Automatic quadrature control and measuring system		[NASA-CASE-MPS-22189-1]	c35 N75-19615
[NASA-CASE-MPS-21660-1]	c14 N74-21017	Multiplate focusing collimator	
Thiophenyl ether disiloxanes and trisiloxanes useful as lubricant fluids		[NASA-CASE-MPS-20932-1]	c35 N75-19616
[NASA-CASE-MPS-22411-1]	c15 N74-21058	Latching device	
Airlock		[NASA-CASE-MPS-21606-1]	c37 N75-19685
[NASA-CASE-MPS-20922-1]	c15 N74-22136	Internally supported flexible duct joint	
Low distortion automatic phase control circuit		[NASA-CASE-MPS-19193-1]	c37 N75-19686
[NASA-CASE-MPS-21671-1]	c10 N74-22885	Frequency modulated oscillator	
Two speed drive system		[NASA-CASE-MPS-23181-1]	c33 N75-21518
[NASA-CASE-MPS-20645-1]	c15 N74-23070	Pseudo-noise test set for communication system evaluation	
Insert facing tool		[NASA-CASE-MPS-22671-1]	c35 N75-21582
[NASA-CASE-MPS-21485-1]	c15 N74-25968	Photovoltaic cell array	
LC-oscillator with automatic stabilized amplitude via bias current control		[NASA-CASE-MPS-22458-1]	c44 N75-22900
[NASA-CASE-MPS-21698-1]	c09 N74-26732	Device for use in loading tension members	
Device for monitoring a change in mass in varying gravimetric environments		[NASA-CASE-MPS-21488-1]	c14 N75-24794
[NASA-CASE-MPS-21556-1]	c14 N74-26945	Holographic system for nondestructive testing	
Holography utilizing surface plasmon resonances		[NASA-CASE-MPS-21704-1]	c35 N75-25124
[NASA-CASE-MPS-22040-1]	c14 N74-26946	Hole cutter	
Electrophoretic sample insertion		[NASA-CASE-MPS-22649-1]	c37 N75-25186
[NASA-CASE-MPS-21395-1]	c14 N74-26948	Simulator for practicing the mating of an observer-controlled object with a target	
Sprag solenoid brake		[NASA-CASE-MPS-23052-1]	c09 N75-25965
[NASA-CASE-MPS-21846-1]	c15 N74-26976	Apparatus for calibrating an image dissector tube	
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[NASA-CASE-MPS-22133-1]	c15 N74-26977	Solid state current transformer	
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[NASA-CASE-NPO-12142-1] c38 N76-28563

Method and apparatus for generating coherent radiation in the ultra-violet region and above by use of distributed feedback  
[NASA-CASE-NPO-13346-1] c36 N76-29575

Stirling cycle engine and refrigeration systems  
[NASA-CASE-NPO-13613-1] c37 N76-29590

Hydrogen rich gas generator  
[NASA-CASE-NPO-13342-2] c44 N76-29700

Solar-powered pump  
[NASA-CASE-NPO-13567-1] c44 N76-29701

Hydrogen rich gas generator  
[NASA-CASE-NPO-13464-2] c44 N76-29704

Myocardium wall thickness transducer and measuring method  
[NASA-CASE-NPO-13644-1] c52 N76-29895

Catheter tip force transducer for cardiovascular research  
[NASA-CASE-NPO-13643-1] c52 N76-29896

Real time analysis of voiced sounds  
[NASA-CASE-NPO-13465-1] c32 N76-31372

Ultra stable frequency distribution system  
[NASA-CASE-NPO-13836-1] c32 N76-31373

III-V photocathode with nitrogen doping for increased quantum efficiency  
[NASA-CASE-NPO-12134-1] c33 N76-31409

Phase substitution of spare converter for a failed one of parallel phase staggered converters  
[NASA-CASE-NPO-13812-1] c33 N76-31413

High resolution Fourier interferometer-spectropolarimeter  
[NASA-CASE-NPO-13604-1] c35 N76-31490

Reflected-wave maser  
[NASA-CASE-NPO-13490-1] c36 N76-31512

Independent gain and bandwidth control of a traveling wave maser  
[NASA-CASE-NPO-13801-1] c36 N76-31514

Method of making hollow elastomeric bodies  
[NASA-CASE-NPO-13535-1] c37 N76-31524

Solar cell grid patterns  
[NASA-CASE-NPO-13087-2] c44 N76-31666

Furlable antenna  
[NASA-CASE-NPO-13553-1] c33 N76-32457

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WESTERN OPERATIONS OFFICE, SANTA MONICA, CALIF.**

Automatic pump Patent  
[NASA-CASE-XNP-04731] c15 N71-24042

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Densitometer Patent  
[NASA-CASE-XLB-00688] c14 N70-41330

**NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION,  
BOULDER, COLO.**

Determining distance to lightning strokes from a single station  
[NASA-CASE-KSC-10698] c07 N73-20175

**NATIONAL RESEARCH CORP., CAMBRIDGE, MASS.**

Gauge calibration by diffusion  
[NASA-CASE-XGS-07752] c14 N73-30390

Ultrahigh vacuum measuring ionization gauge  
[NASA-CASE-XLA-05087] c14 N73-30391

Apparatus for absolute pressure measurement  
[NASA-CASE-LAR-10000] c14 N73-30394

Ultrahigh vacuum gauge having two collector electrodes  
[NASA-CASE-LAR-02743] c14 N73-32324

Rock sampling  
[NASA-CASE-XNP-10007-1] c15 N74-23068

Rock sampling  
[NASA-CASE-XNP-09755] c15 N74-23069

**NORTH AMERICAN AVIATION, INC., CANOGA PARK, CALIF.**

Method of joining aluminum to stainless steel Patent  
[NASA-CASE-MFS-07369] c15 N71-20443

Propellant mass distribution metering apparatus Patent  
[NASA-CASE-NPO-10185] c10 N71-26339

Safety-type locking pin  
[NASA-CASE-MFS-18495] c15 N72-11385

Hydrogen fire detection system with logic circuit to analyze the spectrum of temporal variations of the optical spectrum  
[NASA-CASE-MFS-13130] c10 N72-17173

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[NASA-CASE-XMS-04318] c15 N69-27871

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[NASA-CASE-XNP-07587] c15 N71-18701

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[NASA-CASE-XPR-07172] c05 N71-27234

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Aerodynamic spike nozzle Patent  
[NASA-CASE-XGS-01143] c31 N71-15647

Expanding meter probe and drogue Patent  
[NASA-CASE-XMS-03613] c31 N71-16346

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[NASA-CASE-XNP-09422] c07 N71-19436

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[NASA-CASE-XMS-08589-1] c09 N71-20569

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[NASA-CASE-XMS-03745] c15 N71-21076

Tube dimpling tool Patent  
[NASA-CASE-XMS-06876] c15 N71-21536

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[NASA-CASE-XMS-09310] c15 N71-22706

Etching of aluminum for bonding Patent  
[NASA-CASE-XNP-02303] c17 N71-23828

Method and apparatus for varying thermal conductivity Patent  
[NASA-CASE-XNP-05524] c33 N71-24876

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[NASA-CASE-XMS-04826] c28 N71-28849

Method and construction for protecting heat sensitive bodies from thermal radiation and convective heat Patent  
[NASA-CASE-XNP-01310] c33 N71-28852

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[NASA-CASE-XNP-00650] c27 N71-28929

Spherical shield Patent  
[NASA-CASE-XNP-01855] c15 N71-28937

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[NASA-CASE-XNP-02278] c15 N71-28951

Method and device for cooling Patent  
[NASA-CASE-HQN-00938] c33 N71-29053

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Method and system for respiration analysis Patent  
[NASA-CASE-XPR-08403] c05 N71-11202

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Method and apparatus for detection and location of microleaks Patent  
[NASA-CASE-XNP-02307] c14 N71-10779

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Noncontaminating swabs  
[NASA-CASE-MFS-18100] c15 N72-11390

Observation window for a gas confining chamber  
[NASA-CASE-NPO-10890] c11 N73-12265

Droplet monitoring probe  
[NASA-CASE-NPO-10985] c14 N73-20478

Circuit board package with wedge shaped covers  
[NASA-CASE-MFS-21919-1] c10 N73-25243

Heat flow calorimeter  
[NASA-CASE-GSC-11434-1] c14 N74-27859

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[NASA-CASE-MSC-13047-1] c31 N71-25434

Latching mechanism Patent  
[NASA-CASE-MSC-15474-1] c15 N71-26162

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[NASA-CASE-XNP-02221] c18 N71-27170

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[NASA-CASE-MSC-11849-1] c15 N72-22488

Impact monitoring apparatus  
[NASA-CASE-MSC-15626-1] c14 N72-25411

Bonding or repairing process  
[NASA-CASE-MSC-12357] c15 N73-12489

Self-cycling fluid heater  
[NASA-CASE-MSC-15567-1] c33 N73-16918

Phase protection system for ac power lines  
[NASA-CASE-MSC-17832-1] c10 N74-14956

Apparatus for remote handling of materials  
[NASA-CASE-LAR-10634-1] c15 N74-18123

Grain refinement control in TIG arc welding  
[NASA-CASE-HSC-19095-1] c37 N75-19683

**NORTH AMERICAN ROCKWELL CORP., EL SEGUNDO, CALIF.**  
Apparatus for testing wiring harness by  
vibration generating means  
[NASA-CASE-HSC-15158-1] c14 N72-17325

**NORTH AMERICAN ROCKWELL CORP., LOS ANGELES, CALIF.**  
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[NASA-CASE-HFS-16570-1] c05 N73-32013

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Thermal shock resistant hafnia ceramic material  
[NASA-CASE-LAR-10894-1] c18 N73-14584  
Thermal shock and erosion resistant tantalum  
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[NASA-CASE-LAR-11902-1] c27 N76-23436

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Pulse-width modulation multiplier Patent  
[NASA-CASE-XER-09213] c07 N71-12390

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[NASA-CASE-NPO-12109] c11 N72-22245  
Folding structure fabricated of rigid panels  
[NASA-CASE-XHQ-02146] c18 N75-27040

**NORTHROP NORTHROPICS, PALOS VERDES PENINSULA, CALIF.**  
Method of making dry electrodes  
[NASA-CASE-PRC-10029-2] c05 N72-25121  
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[NASA-CASE-NPO-10051] c18 N71-24934

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[NASA-CASE-PRC-10029] c09 N71-24618  
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[NASA-CASE-XMP-08651] c06 N71-11236  
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**OAKLAND UNIV., ROCHESTER, MICH.**  
An optical process for producing classification  
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[NASA-CASE-MSC-14472-1] c13 N74-32780

**OHIO STATE UNIV., COLUMBUS.**  
Horn antenna having V-shaped corrugated slots  
[NASA-CASE-LAR-11112-1] c32 N76-15330

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Instrumentation for measuring aircraft noise and  
sonic boom  
[NASA-CASE-LAR-11476-1] c07 N76-27232

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[NASA-CASE-NPO-10768-2] c06 N72-27144  
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extension device Patent  
[NASA-CASE-HSC-12165-1] c07 N71-33696

**PHILCO-FORD CORP., NEWPORT BEACH, CALIF.**  
Mechanically extendible telescoping boom  
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**PHILCO-FORD CORP., PALO ALTO, CALIF.**  
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[NASA-CASE-GSC-11046-1] c07 N73-28013  
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Wind measurement system  
[NASA-CASE-HFS-23362-1] c47 N76-13701

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[NASA-CASE-XMS-01624] c15 N70-40062  
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[NASA-CASE-XMS-01620] c23 N71-15673  
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[NASA-CASE-XMS-01625] c15 N71-23022

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mechanism  
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[NASA-CASE-XGS-01395] c03 N69-21539  
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junctions  
[NASA-CASE-XNP-01960] c09 N71-23027

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[NASA-CASE-XNP-01959] c26 N71-23043
- Method and apparatus for distillation of liquids Patent  
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[NASA-CASE-XMS-06782] c32 N71-15974
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[NASA-CASE-NPO-10158] c33 N71-16356
- Laminar flow enhancement Patent  
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[NASA-CASE-MPS-14259] c15 N71-19213
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[NASA-CASE-XNP-00816] c28 N71-28928
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[NASA-CASE-NPO-10998-1] c06 N73-32029
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[NASA-CASE-MPS-19193-1] c37 N75-19686
- Method of heat treating age-hardenable alloys  
[NASA-CASE-XNP-01311] c26 N75-29236
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[NASA-CASE-MSC-19442-1] c74 N75-22119
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[NASA-CASE-XMF-05882] c35 N75-27329
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[NASA-CASE-MPS-19194-1] c37 N76-14460
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[NASA-CASE-MSC-19535-1] c37 N76-15463
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[NASA-CASE-MSC-19523-1] c31 N76-16245
- Mechanical sequencer  
[NASA-CASE-MSC-19536-1] c37 N76-19439
- Apparatus for positioning modular components on a vertical or overhead surface  
[NASA-CASE-LAR-11465-1] c37 N76-21554
- Flexible pile thermal barrier seal  
[NASA-CASE-MSC-19568-1] c37 N76-23585
- Method of producing complex aluminum alloy parts of high temper, and products thereof  
[NASA-CASE-MSC-19693-1] c26 N76-29401
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[NASA-CASE-MSC-19666-1] c37 N76-31529
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- System for measuring three fluctuating velocity components in a turbulently flowing fluid  
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[NASA-CASE-XLA-04143] c15 N71-17687
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- SCOTT AVIATION CORP., LANCASTER, N.Y.**  
Self-contained breathing apparatus  
[NASA-CASE-MSC-14733-1] c54 N76-24900
- SINGER-GENERAL PRECISION, INC., BINGHAMTON, N.Y.**  
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[NASA-CASE-HQN-10654-1] c16 N73-13489

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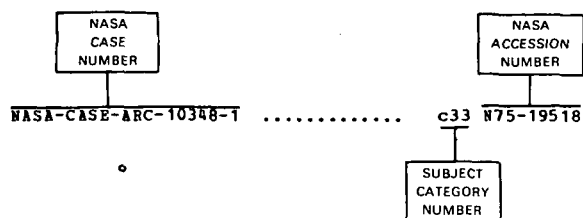


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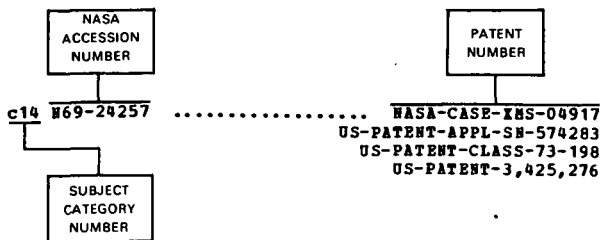
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16. Abstract  <p>This bibliography is issued in two sections: Section 1 - Abstracts, and Section 2 - Indexes. This issue of the Abstract Section cites 189 patents and applications for patent introduced into the NASA scientific and technical information system during the period July 1976 through December 1976. Each entry in the Abstract Section consists of a citation, an abstract, and, in most cases, a key illustration selected from the patent or application for patent. This issue of the Index Section contains entries for 3089 patent and application for patent citations covering the period May 1969 through December 1976. The Index Section contains five indexes -- subject, inventor, source, number, and accession number.</p>					
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